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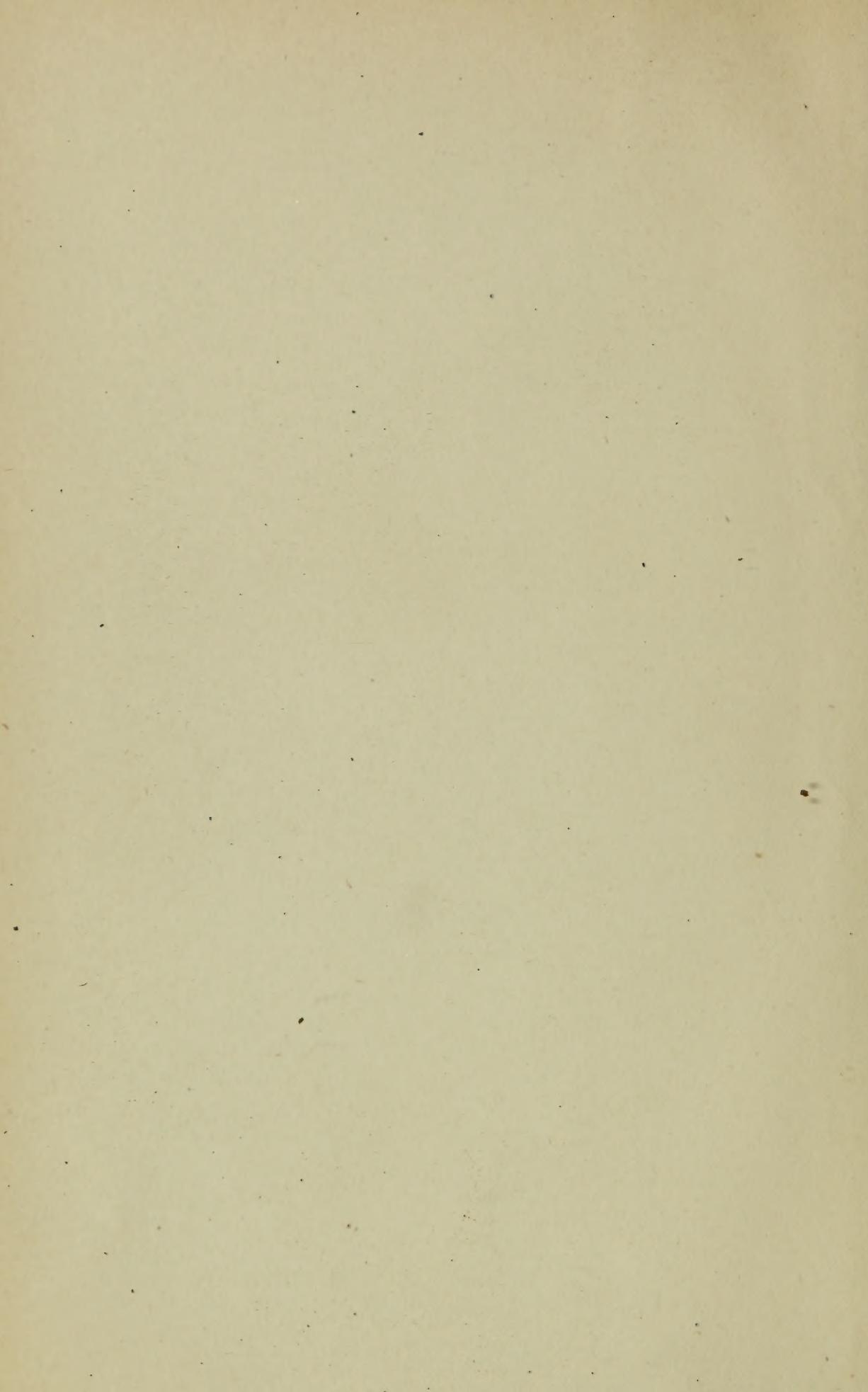


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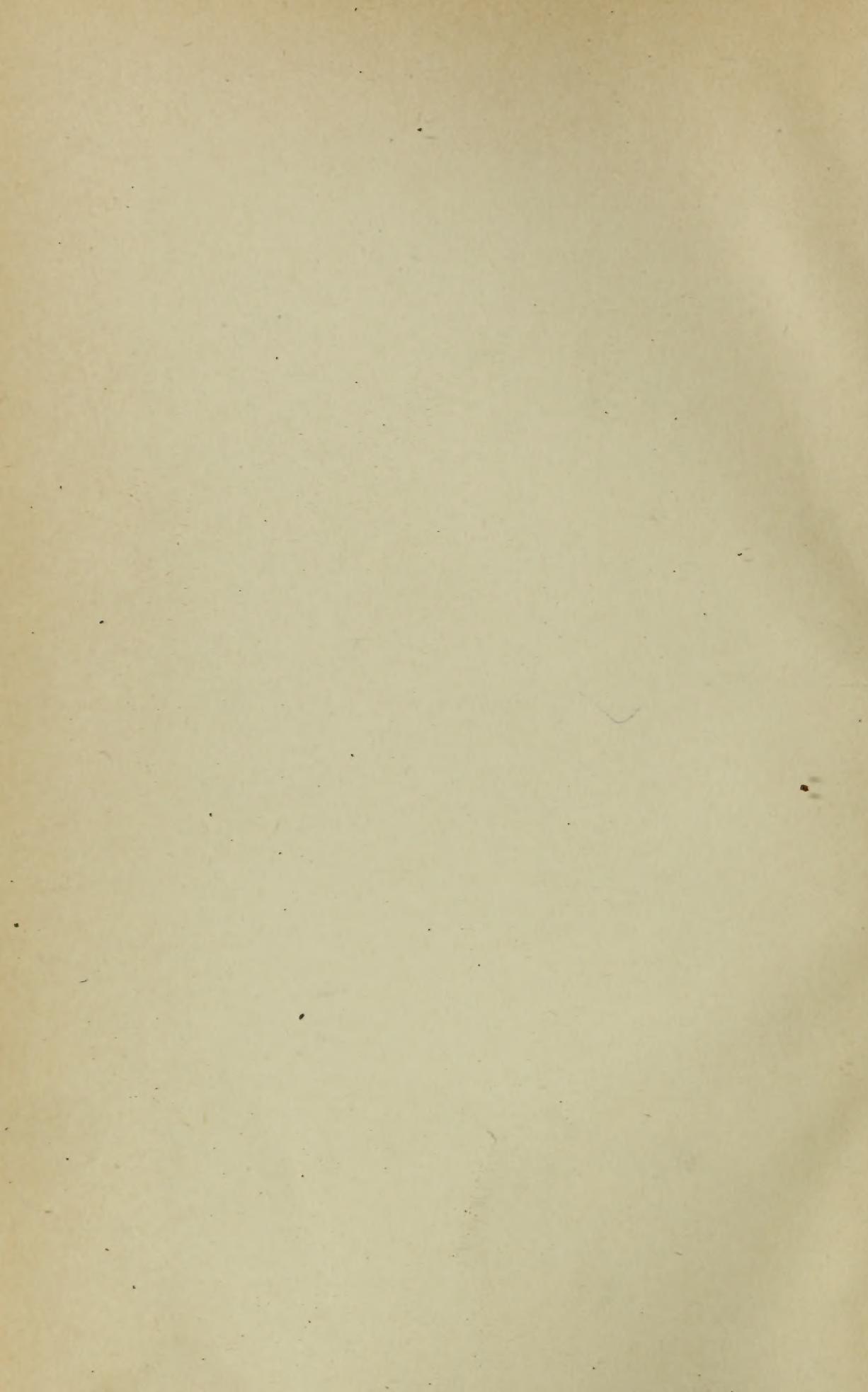
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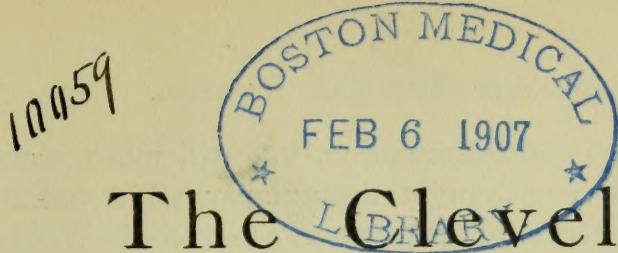
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## The Special Field of Neurological Surgery

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In this address I shall attempt to formulate some personal views concerning a branch of surgery, which, in this country at least, largely owing to the allurement of other and more immediately promising fields of operative endeavor, has hardly received the attention it deserves.

Through the generosity of Dr Halsted, his junior associates have been given in a measure the privilege of directing the work in some of the subdivisions of his large surgical clinic, in order that they may concentrate their efforts toward advancement along particular lines. It has thus fallen to my lot, temporarily and under his guidance, to control the group of cases which present features chiefly of neurological interest; and it is upon the present possibilities and limitations, as well as upon the future outlook for this department of surgery, that I shall touch briefly.

To many of us as students, neurology was the *pons asinorum* of the medical curriculum. Nor can I recall the making of any very strenuous effort to cross the bridge, particularly on the part of those of us, whose ability to visualize lesions, that probably had never been seen under the microscope nor handled in the gross, was—to say the least—not abnormally developed; and who, for the stimulation of their interest, needed certainties of diagnosis and assurances of therapeutic results. Even for a student whose inclinations from the beginning may tend in this direction, a steady prosecution of the subject is beset with great discouragements.

Special training is necessary before one can obtain a working knowledge of the underlying pathological processes, without which the clinical superstructure is built upon sand. The morbid anatomy of the lesions is greatly obscured by the imper-

fections of our methods of examination, but still more because they are but rarely seen except at the autopsy table and then only in their terminal stages. Furthermore, owing to the technical difficulties of our present laboratory methods, so long a time often elapses before the histological alterations in the tissues are demonstrable that, in the interim, our recollection of the clinical picture has become dimmed and interest has fled elsewhere. That the morbid physiology of the subject—its experimental side—when compared with the researches that have been made in other directions, has hardly been touched, may be a matter of regret, but can hardly surprise us when we consider that the normal structure and function of many parts of the nervous system remain as yet unknown. Finally, the privilege of regarding as historic the days when there existed a "plague of drugs \* \* \* least mischievous when merely superfluous," and which a century ago evoked the well-known aphorism of Benjamin Franklin, "He is the best physician who knows the worthlessness of the most medicines," carries with it a satisfaction that it is not without alloy. For what enthusiastic student in medicine can face without dismay the "poverty of therapy" that characterizes our age, and which is emphasized more especially in the neurological clinic, which today stands largely on the therapeutic tripod of iodin, bromin and electricity.

Will a more general application of surgical methods in this department offer anything in the way of diminishing the present number of the medicinally incurable, or of improving the condition of those whose maladies time alone, not medicine, restores to a certain degree? Certainly not, while the neurologist and surgeon retain the same remote relations that have heretofore existed between them. Aware, so far as one who does not operate can be, of the possibilities of surgical therapy in a given condition, the neurologist spends days or weeks working out the presumable location and nature of, let us say, a cerebral tumor. An operator is called in; he has little knowledge of maladies of this nature and less interest in them, but is willing to undertake the exploration. The supposed site of the growth is marked out for him on the scalp by the neurologist; and he proceeds to trephine. The dura is opened hesitatingly; the cortex is exposed, and too often no tumor is found. The operator's interest ceases with the exploration, and for the patient the common sequel is a hernia, a fungus cerebri, meningitis and death. But should this be a matter for surprise? Does the internist expect thus to instruct an operator into the mysteries of an abdominal tumor and show

him where and how to make his exploration? Does he not demand that the surgeon should be as familiar with the symptomatology and the underlying morbid factors of the disease as he is himself? Certainly the relationship between the internist and the general surgeon is far closer than it was in the days of the professional herniotomist, whose instruments were looked over and who was directed in the course of his operation by the physician.

I take it that we all are, or should be, branches grown from the common stem of medicine—in the broad Hippocratic meaning of the term—and nourished through the roots of general pathology. And whether one chooses to follow lines of surgical therapy in his own subject, and another not, is purely a matter of personal inclination and manual training. Nor is it less true, I think, of any individual branch of this parent stem than of the tree itself, that without flourishing surgical twigs it will, like Dean Swift's noble elm, die at the top.\*

But why this long preamble? Because it seems clear that in order to advance surgical measures, whether they are to deal with diseases of the nervous system, the deformities of children, diseases of the genitourinary tract, those peculiar to women, or those belonging to any other more or less limited branch, specialization, or better, concentration of thought and energy along given lines is necessary. Why are we so slow to understand that we cannot graft an independent twig of operative surgery on any of the branches of this huge medical tree, and have it grow undeformed? Original growth from the main stem of general medicine and surgery is necessary, but some at least of those whose inclinations follow the branch of neurology must do their own surgery, if it is to aid in the development of their therapy, and not depend on the help supplied by the lukewarm assistance of other departments.

To successfully cope with the many operative problems offered by the various disorders of the nervous system, a man, after a thorough training in pathology and medicine (in its broadest sense), must study not only in the neurological clinic, but also in the laboratory, the pathology of these afflictions in their histological and—what is still more important—in their experimental

\*“The chief lesson of the Hippocratic period for us is that, in practice as in honour, medicine and surgery were then one; the Greek physician had no more scruple in using his hands in the service of his brains than had Phidias or Archimedes; and it was by this co-operation in the fifth century that the advance was achieved which in our eyes is marvellous. As we pursue the history of medicine in later times we shall see the error, the blindness, and the vanity of physicians who neglected and despised a noble handicraft. The clear eyes of the ancient Greeks perceived that an art is not liberal or illiberal by its manipulations, but by its ends.”

—Clifford Abbott. *An address on the Historical Relations between Surgery and Medicine. The Congress of Arts and Sciences, St. Louis, Sept. 27, 1904*

aspects. Anyone who like myself has passed from general surgery to neurology and finds himself but ill-prepared for his new work, must be satisfied to merely follow the lead of others, as I have largely had to do.

Though a surgeon possesses a natural tendency towards handicraft in matters therapeutic, I do not wish to be considered as one who distorts neurological problems by viewing them with an operative strabismus uncorrected by the proper lenses. I wish merely, so far as my time allows, to point out some of the present possibilities of affording surgical relief in certain maladies for which the outlook is otherwise most forlorn, and at the same time to lay stress on certain points that give us hope for the future. I shall keep away, so far as possible, from beaten paths; for that a cerebral abscess should be evacuated, a ruptured meningeal vessel tied, the spinal cord relieved from pressure, and a severed nerve sutured, has long needed no comment.

#### THE BRAIN AND ITS ENVELOPES

At the outset something may be said relative to the surgery of cerebral tumors. A very natural reaction followed after it became generally known how unsatisfactory had been the results in the early series of cases so enthusiastically undertaken when for the first time aseptic procedures had permitted surgeons to perform craniotomies with a certain assurance of operative safety, so far as wound healing was concerned. In 1891, Agnew concluded an admirable paper on the subject with the words, "It is more than probable that, as our observations multiply, the sphere of the trephine, as a preliminary measure for the removal of brain tumors, will be lessened rather than amplified." And this from the city which, perhaps above all others, has since contributed the greatest number of successful cases! Von Bergmann's discouraging views are too well known to repeat here, and I doubt not that his opinion has done more than any other single factor to keep the surgery of this particular group of cases at a standstill, just as the views of the physiologist Flourens—that there is no distribution of function in the cerebral cortex, but that a loss of substance is followed by symptoms proportionate to its extent but independent of its location—so long retarded the development of cerebral localization. Happily for us things are far different today. Not only has localization of the more approachable parts of the cortex—after a long series of researches culminating in the work of Sherrington and his co-workers, particularly Grünbaum and Campbell—been put on a working basis for us, but also

through the enormous strides in operative technic, particularly through Wagner's osteoplastic method of resection, we are now able to bring under observation extensive portions of the cerebral surface. In the earlier days of cranial surgery, it must be remembered, lesions in the motor area of the cortex were about the only ones that were considered approachable, and when we realize how far afield the experimentalists had gone in delimiting the "motor cortex," and, guided solely by calculations of the Rolandic area made upon the scalp, through what small trephine openings operators attempted to disclose underlying growths, it is little wonder that failures were almost universal. Today the reports of successful extirpations\* are becoming more and more frequent. Happily also perfect functional restoration has taken place in many cases, and we now know that a considerable percentage of the growths originate in the meninges, are by nature noninfiltrating and only damage the cerebrum through their compressive effects.

It is, however, upon another and less thoroughly ventilated aspect of the subject that I wish to dwell, namely upon the performance of palliative operations both for the supposedly inaccessible growths as well as for those which in the light of our present knowledge still remain non-localizable. In affording a measure of relief to these distressing cases, one may fulfill the chief of his duties as a physician—to prolong life and at the same time alleviate suffering. For the mere lengthening of a patient's months or years without rendering them more livable, is, as Dr Fitz has so emphatically pointed out, no justification whatsoever of an operative procedure.†

The triad of symptoms, the profound headache, the vomiting, and sooner or later the stasis papillæ with ensuing loss of vision, are due to the increased tension and consequent disturbance of circulation within the closed box of the skull. Whatever and wherever be the lesion itself;—whether there be a simple growth located in a hemisphere, another which obstructs in some way the outflow of cerebrospinal fluid, a ventricular dilatation from inflammatory causes, or circulatory disturbances from a longitudinal sinus thrombosis—in all cases the tension phenomena are the same, varying only in degree and in their time of onset. The

\*Even of growths in situations, which a few years ago were considered inaccessible, such as the "lateral-recess tumors" (cerebello-pontine) of which Sir Victor Horsley has had a considerable series. It is not impossible that a diseased pituitary body may some day be successfully attacked.

†Fitz. Some Surgical Tendencies from a Medical Point of View. *Boston Med. and Surg. Journal*, Vol. 145, Dec. 19, 1901. "Any operation which does not better the condition of the patient must be regarded as a therapeutic error, since the knowledge thus obtained shows that the operation should not have been performed."

symptoms of a localizing nature, whether motor, sensory, visual, psychic\* or what not, that may be superimposed on this triad, bear no necessary relation to the headache, vomiting and ocular symptoms, which, if unrelieved, cause perpetual suffering, lead to blindness, and finally are responsible for death itself, except in those rare instances of direct implication of some vital center in a spreading lesion. Complete relief to these symptoms may be brought about, and brought about promptly, in the vast majority of cases by the "decompression" of a palliative craniectomy as many neurologists† and surgeons have emphasized, and patients may go on for months or possibly years, free from pain, and best of all, with their eyesight preserved.

I have at the present time several of these cases under observation, patients who before the operation were bedridden and suffering invalids. Two of them have been able to return to their occupations; some others, sad to relate, though comfortable, are practically blind owing to the long postponement of the decompression. And it is for the preservation of vision, particularly in those cases in which the intellectual faculties are in no way disturbed, that the operation should be resorted to promptly, that is, as early as possible after the diagnosis of probable brain tumor has been made.

The dread of the operating room, which many doctors share with their patients, together with the supposed uncertainties of an exploration, has led and still leads to one invariable course of treatment, large doses of the iodids being given with the vague hope that lues venerea may be at the bottom of the trouble. But, even should there be definite grounds for this suspicion, the indications for an operation in many cases are none the less clear. In the first place, many, perhaps the largest proportion, of the gummata are superficial, accessible, and when exposed easily enucleated; they are, furthermore, very resistant to the usual antisiphilitic therapy, and, during the necessarily long term of treatment, the experience of watching a choked

\*The cases with superimposed psychic symptoms, indicating as they do lesions of the frontal lobes, frequently end their days in asylums for the insane. The recent report by Blackburn ("Intracranial Tumors among the Insane" 1903. Gov. Printing Office, Washington) from the Government Hospital for the Insane, records the discovery, in their series of autopsies, of 28 true tumors, of which 17 were of the so-called "endothelial sarcoma" variety; that is, they were comparatively benign growths, originating from the meninges, and many of them distinctly operable.

†Thus Alfred Sänger, of Hamburg, in a paper (*Über die Palliativoperation des Schädels bei inoperablen Hirntumoren*) read before the German Surgical Congress, says, "In short, palliative trepanation in case of cerebral tumor, an operation which even if not absolutely free from danger, is of extraordinary blessedness and, in the hands of a practiced surgeon, one that I would like to recommend in every case, in consideration of the impotency of internal medicine and in view of the distressful (qualvollem) suffering, and above all of the menacing blindness."

disc going on to a more or less complete optic atrophy, or of seeing other troubles supervene, is by no means uncommon. Some time ago I had under my care a patient, known to have had syphilis, and who presented symptoms of a cerebral growth, presumably an approachable one, since irritative motor phenomena of a Jacksonian character were superimposed. It was deemed advisable, on consultation, to prolong still further the use of mercury and potassium iodid, though these drugs had already been given a fair trial, with only a modicum of relief. The woman died suddenly one night in status epilepticus and a cortical gumma was found in the situation expected. Such experiences should teach us that, in cases of this sort, unless the intracranial symptoms subside very rapidly under the treatment, a more prolonged trial of these drugs had better be reserved for the postoperative period. Moreover, it must not be forgotten that symptoms occasioned by nonluetic processes often, for a time, show a marked amelioration under these everyday measures, so that unless we are on our guard we may easily be led astray in our conclusions based upon these so-called therapeutic aids to diagnosis.

A palliative trepanation, although in itself not a very difficult operation, demands not a little forethought as well as manipulative skill. When there is no expectation of finding a growth and when the operation is to be carried out for decompressive purposes only, the site must be carefully chosen, for the hernia which necessarily results, and which is meant to act as a "safety valve" for the compressed brain, strangulates practically all function out of that portion of the cerebrum which protrudes. For this reason we must be careful lest, in relieving the patient of his pain, we substitute some form of paralysis. A more or less silent field of the cortex should, therefore, be selected. A relatively wide area of bone must be removed, its extent depending upon the degree of tension found at operation. The dura should be left open after being slit up in a stellate fashion to the edge of the wound, or better still cut away entirely; otherwise there may be local pain resulting from pressure by the hernia upon this sensitive membrane, which pushes it against the edge of the bone. Even to the painstaking final approximation of the scalp wound, every detail of the operation and of the local after-treatment must be followed out with the greatest care, if one wishes to avoid that most distressing of all complications, a fungus cerebri, which I am happy to say has occurred to me only twice in a long series of operations. In

some cases of "silent" basilar tumors leading to an obstruction of the ventricular outflow, the herniae have rapidly grown to be almost as large as the patient's head, without any parting of the scar.\*

The particular form of decompressive operation which has proved most serviceable in the majority of the recent cases of non-localizable growths, is an intermuscular one, sometimes conducted bilaterally, through the temporal region, with the removal of the squamous portion of the os temporale and closure of the muscle and its fascia over the denuded brain. But of the details of this procedure more will be said in another paper.

I shall now pass on to the consideration of another large group of cases, those in which the symptoms are due to intracranial hemorrhage. Certain of these, more particularly the extradural forms of circumscribed effusion, which are usually due to the laceration of a branch of the meningeal artery, have long been recognized as distinctly and urgently operable. Interference with other varieties of hemorrhage is less commonly advocated. Nevertheless, we are coming to feel that the diffuse subdural hemorrhage associated with fracture of the base of the skull, the hemorrhage which occurs in the newborn—both of which usually follow the rupture of veins alone—and also the arterial hemorrhages of the adult into the substance of the brain, in selected cases, are as properly and advisedly attacked surgically as are the more accessible, localizable, and easily treated effusions of blood.

In the diffuse bleeding from traumatic basal fractures, which in most cases can be readily differentiated from the extradural form by means of a lumbar puncture, there is often urgent need for decompression with the evacuation of clots and drainage, if there is a continuance of the bleeding. In these cases also the intermuscular operation, mentioned above, has been found to be the most convenient means of approach. Of course it is not always possible to save these patients when the extravasation is large and especially when it is associated with a serious contusion of the brain. Nevertheless, trepanation will go a long way toward warding off the later compression effects produced by traumatic edema, which, in the light of Cannon's experiments, is doubtless responsible for many of the fatalities.

\*Many of the technical details, found to be best adapted to my personal needs in performing cranial operations, and in avoiding local post-operative complications, have been described elsewhere. (Pneumatic Tourniquets, etc. The *Medical News*, March 28, 1924.)

Some months ago during a race, two young men were thrown from a tandem motorcycle, and both sustained severe cranial injuries. They were brought to the hospital, unconscious. Bloody fluid was withdrawn from the lumbar subarachnoid space of each patient. One of them, apparently the more severely injured, was trephined low down in the skull, and bloody fluid with clots in considerable amount was evacuated; the other was left alone. The former patient was up in 48 hours after the operation; he was entirely free from symptoms, left the hospital early, and would probably have been well today, had he not a short time later died the almost inevitable traumatic death of a motorcycle pacemaker. The other patient remained in the hospital for a month, during which time he complained of headache, dizziness and the usual familiar sequels of these injuries, from which he has never become entirely free.

To cite a second case: A young man was tilted out of the back seat of a wagon by the unexpected starting of the vehicle, and landed upon the back of his head on the hard road. After some hours of unconsciousness he was found to have a homonymous hemianopsia and aphasia. Instead of investigating the cause of these symptoms, presumably due to local hemorrhages in the right occipital lobe, and, by *contrecoup*, in the left inferior frontal region, his physician, owing to the fact that there was neither a scalp wound nor any external evidence of fracture, and because the patient was making a progressive though slow improvement, decided against operation. Two months later there occurred an epileptic attack with a peculiar uncontrollable motor-speech (jargon) aura. These attacks increased in frequency and severity. Finally, a year later, the lower frontal convolutions were exposed, disclosing an adherent dura and a depressed scar over Broca's convolution. The epileptic attacks have ceased, but the visual defect and aphasia remain as before.

In the following case a different course was followed: A college boy sustained a severe blow on the head during a football scrimmage, and soon became unconscious. There was no indication of any external lesion. Though his symptoms had in large part subsided by the following day, he was somewhat stuporous, but responded slowly and reluctantly to inquiries. The movements of the face, tongue and arm on the right side seemed somewhat less free than those of the corresponding parts on the opposite side, and when roused and questioned, the patient stated that his hand was "numb." Blood-stained fluid was found within the lumbar meninges. Through an inter-

muscular incision in the left temporal region a subdural clot, about a centimeter thick and covering the lower Rolandic area, was bluntly scraped and irrigated away. The patient came out of the anesthetic with a perfectly clear and active sensorium, though with no memory of the events subsequent to the injury. His convalescence was rapid and he escaped the usual slow restoration to the normal—perhaps never quite to the normal—of these cases when left alone. Numerous other instances might be enumerated.

For the more severe, the more desperately injured cases, which present bulbar symptoms, owing to an implication of the vasomotor, vagus and respiratory centers, a prompt craniotomy, perhaps bilateral and into the cerebellar fossa, with evacuation of clots and drainage, offers the only hope of life. In passing I may remind you that it is clinically well recognized that when these intracranial hemorrhages are complicated by extensive fractures of the cranial vault, the patients more frequently fail to show critical symptoms than do those who have escaped with an intact though fissured skull.

Much more important, it seems to me, are the intracranial hemorrhages which occur at birth. The problem is the same as in the cases just mentioned, there being a free escape of venous blood into the subarachnoid space, but with the additional element in favor of the child that the cranium is in a measure distensible. The conditions, therefore, are comparable to those hinted at above as occurring in the adult, namely a diffuse hemorrhage accompanied by some fragmentation of the vault. But given the distensibility of the cranium, the immediate consequences are not so likely to be serious even with an extensive effusion: and yet the late sequels are lamentable enough. The usual history is sadly familiar to all of us. A first-born child; a prolonged labor, often ending with instrumental delivery; some difficulty experienced in getting the child to breathe satisfactorily; a tense fontanelle; the child too weak to suckle and so fed by a dropper for some days; and after a time an apparent restoration to health. But too often, some months later, it is noticed that the child uses one side of the body, an arm or a leg, badly, or may be mentally deficient or blind. He eventually grows up, often with one or more spastic limbs but, not uncommonly, worst of all, he is subject to cortical fits. In this particular group of epileptics I have had a considerable experience in trephining and when the attacks were of a Jacksonian motor character in extirpating areas of the precentral gyrus. And I can only say that

the extraordinary variety of cortical lesions encountered defies description. Why should not these children at the time of the accident have been afforded the same chance of avoiding subsequent complications that is given an adult with intracranial hemorrhage? The reason is not far to seek. The author of one of our best text-books of neurology accredits most of the cases of spastic paraplegia to hemorrhages occurring at birth or in infancy, and while granting that it would be ideal if we could at the time treat them surgically, concludes that infants could not possibly survive the ordeal. A leading pediatrician also, whose knowledge of the pathology and symptomatology of these cases is surpassed by none, has stated that these lesions cannot be attacked at the time of their occurrence because the coagulation time of the blood in the new-born is so slow that a fatal hemorrhage would necessarily follow any operation of this severity. This latter view would seem to have resulted from a misconception, unless our observations on coagulation are at fault; and, so far as endurance of the operative procedure is concerned, when one considers what the child's head is fitted by nature to withstand during parturition, the far milder traumatism of an operative procedure should on *a priori* grounds certainly be as well borne.

Two years ago, while making some investigations on the cerebrospinal space, I was privileged by the obstetrical department to autopsy a number of the children, who were stillborn or who had survived only a few hours or days. To my surprise I found that about half of them had died with, if not from an intracranial hemorrhage.\* Shortly after this Dr Dabney consulted me in regard to an infant 48 hours old, the first born of twins, which evidently was dying with compression symptoms. Contrasted with its normal twin the child had a very tense fontanelle, a slow pulse, slow and irregular respiration and a dilated right pupil. We operated as soon as preparations could be made. The right parietal bone was turned down and on opening the tense plum-colored dura there was found a large thick clot, which spread over almost the entire hemisphere. This was easily broken up and irrigated away with warm salt solution and the wound was closed. The child survived only eight hours. Since that time, however, I have had two successful operations of a similar nature, the details

\*The lesion frequently found was a rupture of one of the delicate cerebral veins near its point of entry into the longitudinal sinus, the vessel having been torn, doubtless, by the strain put upon it from the overlapping of the parietal bones during labor.

of which need not be entered into here other than to say that I regard the preservation of warmth and avoidance of loss of blood to be the prime essentials. The procedure itself, though delicate in performance, need not entail serious consequences. In the last case a bilateral operation was performed, in order to expose both hemispheres.

The third group of hemorrhages, of which a word will be said, is of a totally different variety, being arterial in origin and intracerebral in site. Nevertheless, I am convinced that in properly selected instances much may be accomplished for these cases also by proper operative intervention. The lesion by nature is, of course, an immediately destructive one and cannot be obviated by an evacuation of the clot: still it probably lies in our power to effectually ward off the fatality, which results from an exhaustion of the medullary centers, subjected, over a prolonged period, to an increased tension of high degree. The damage already done to the brain, however, particularly by a hemorrhage in the right hemisphere, is not necessarily incompatible with subsequent physical and mental activities of a high order.

None of the cases of apoplexy upon which I have operated have recovered; improvement, however, after the trepanation was considerable in all of them in spite of the fact that only those patients were subjected to the operation who at the time were profoundly unconscious and for whom death seemed imminent. For two or three days the condition of one of them was so much bettered that hopes of recovery were entertained; but he succumbed, apparently from an inhalation pneumonia. In view of the fact that no anesthetic had been necessary, we can only suppose that the pulmonary complication had originated during the long period of snoring and irregular (Cheyne-Stokes) respiration, that had preceded the operation.\*

Today I think the exploration could be done much better by employing the intermuscular operation through the temporal region to which reference has been made. Anyone who has had the experience of opening the skull and dura in a case of apoplexy, and consequently is aware of the enormous degree of cerebral tension encountered, would hesitate to expose the brain in another similar case, unless safeguarded by an intermuscular means of approach. Fortunately, the temporal region furnishes the nearest access to the usual large capsular clot;

\*From a physiological point of view, reference has already been made to these cases in the *American Journal of the Medical Sciences* for June, 1903, "The Blood-pressure Reaction of Acute Cerebral Compression, etc."

and according to my experience, when a sufficient opening has been made down to it, the clot will practically extrude itself.

The only case of actual intracerebral hemorrhage which I have seen recover after operation was in a patient from Dr Thomas' clinic in whom the bleeding had followed a penetrating stab-wound of the left superior parietal region. This had produced an extensive contralateral hemianesthesia, asterognosia, loss of muscle-sense and word-blindness. At the operation the cortex was incised in the track of the puncture and on reaching the hemorrhagic cavity clots, amounting to about an ounce, extruded themselves with immediate subsidence of the increased tension. This patient still retains some blunting of stereognostic perception in the right hand; but all of the other sensory symptoms disappeared within a few days after the operation.

There are many other intracranial conditions that promise to have an essentially operative therapy when our knowledge of the underlying mechanical conditions has been increased. As an example may be mentioned internal hydrocephalus with its oft accompanying maldevelopment of the spine—a condition which hitherto has successfully baffled all efforts to secure satisfactory remedial measures. In the series of cases (now six in all) observed during the past few years at the Johns Hopkins Hospital, and in which drainage into the retroperitoneal space by trephining the vertebra has been carried out, it seems that the nearest approach to a rational operation has been attempted, and the results in three of the cases have been most encouraging. But it is necessary before going any farther, to learn something more of the mechanical factors which lead to the condition, by further experimental study of the normal course of circulation of the cerebrospinal fluid, and, if possible, by the experimental production of these anomalies in the lower animals.

Similarly, drainage of the meningeal spaces, when they are infected, is by no means a hopeless surgical problem, although much is to be learned by experience of ways and means to this end. One patient that was operated upon, some years ago, for a purulent (*staphylococcus aureus*) spinal leptomeningitis, after irrigation and prolonged drainage, entirely recovered from the local infection. His death occurred six months later from the complications of a pyonephrosis and at the autopsy, beyond the slight scar in the dura, Dr Flexner could observe no macroscopical evidence whatever of any preexisting infection.\* In the epidemic forms of meningitis, though a few cases presenting

\*This case among others was reported by Dr Osler in the Cavendish Lecture for 1889, *The London Lancet*.

serious compression phenomena have been surgically drained and irrigated in one way or another, no permanent beneficial effects have been observed, though the symptoms frequently abate in great measure and life may seemingly be prolonged, much as by the use of frequent lumbar punctures. Similarly in one child with hemorrhagic encephalitis, the threatened terminal symptoms of the paralytic stage were warded off by a decompressive operation, but without anything more than a postponement of the eventual fatality. It is not impossible that in the slowly progressive infections of a tuberculous origin, the mere exposure of the meninges may exercise some beneficial effect, as seems to be the case in tuberculous peritonitis, by increasing the local resistance of the tissues to the spread of the disease.

Maladies, such, for example, as the major neuralgias of the trigeminus and the complications of suppurative otitis media have belonged too long to the field of surgery to need any detailed mention here. But before leaving the subject of operations upon the brain, however, I should like to say something in general of methods of procedure.

Chloroform narcosis has been advocated by the highest authority, for the reason that less bleeding accompanies operations under its administration than when ether is employed. This is undoubtedly true, but this result is brought about through the lowering of bloodpressure, the very condition that one would desire to avoid and one, which, were it desirable, could readily be assured by a certain amount of blood-letting. Ether is a much safer drug. The effect of the anesthetic, together with other physiological reactions, reflex and otherwise, associated with operations upon the central nervous system, is best appreciated by keeping a bloodpressure chart. Such a record not only furnishes instructive and interesting general data, but often furnishes a means of properly interpreting the effects, beneficial or otherwise, of the various operative steps. The only annoying arterial hemorrhage comes from the scalp and in the majority of craniotomies (all but basal ones) this may be controled by the proper use of a tourniquet. The venous hemorrhage, which at times may be profuse from the diploe, sinuses or brain, must be controled by special methods. Posture is often-times of great help in lessening this form of bleeding, but an upright position is attended by some hazard unless some means of supporting the general arterial pressure is employed. In this connection the inflatable suit, the result of the ingenious

researches of Dr Crile, can often be used to advantage. With our present knowledge, the doctrine that in cranial operations rapidity is all-important would certainly appear to be based upon erroneous conceptions. I feel sure that experience will show that in cranial work, as in operations elsewhere, time, in the majority of cases, is vastly secondary in importance to careful hemostasis.

#### THE SPINAL CORD

The surgical procedures, which we are called upon to carry out for spinal lesions, require no such delicacy of handicraftsmanship, and present no such critical complications as those with which we have just been dealing. For purposes of localization, however, a knowledge of neurological anatomy is no less essential, and the site of each segmental unit in relation to the skeletal landmarks must be familiarized as well as the physiological part which each of them plays. There are no clinical puzzles more interesting to disentangle, none more confusing when left in a snarl, than those connected with the segmental localization of a cord lesion, the determination from disturbances of function of its transverse extent, a decision as to the recoverability of the injured tracts, and a knowledge of just where the intact arches of the spinal vertebral must be entered in order to expose the diseased focus. The small and removable spinal cord tumors especially put one's knowledge of localization to the test. The primary growths, fortunately, are usually of a benign nature; they spring from the meninges, are enucleable, and if removed early allow of complete restoration in the cord. Probably these meningeal (intrathecal) tumors are by no means rare, and that so few successful extirpations have been recorded in this country, is due to the fact that mistaken diagnoses have been frequent, explorations have been lamentably rare, and too often localizations have been incorrectly made. A single visit to the laboratory at the Queen's Square Hospital in London, where their tumors of this nature are preserved, enables one to realize how frequently in other parts of the world they must have been overlooked.

My personal experience with spinal tumors has been small. I have had one successful case of an enucleable tumor, with complete restoration of function which had been disturbed by the compression. In another patient, who had been treated for 17 years for transverse myelitis, a fibroma was found, the size of a man's fist, which had caused a compression erosion of the overlying vertebra. At so late a date the cord had naturally been destroyed beyond repair. In a third patient, a child, the pressure

of a mid-dorsal, inclusion dermoid cyst had caused symptoms of total physiological transverse lesion: a complete restoration of function has followed its removal. The other cases have been illustrations simply of invasion of the spinal canal from without, usually by malignant disease. One of these patients almost completely recovered from the compression symptoms after a laminectomy and the removal of as much of the growth as was accessible. Some months later the pressure symptoms returned with accompanying severe root-pains and a second operation was undertaken and abandoned as hopeless. Had I appreciated the intensity of suffering which this patient was destined to undergo, purely as a palliative measure, I would deliberately have divided the cord at a point situated a segment or two above the growth. I believe this to be a justifiable measure whenever disease of a hopeless character has seriously damaged the cord and when the radiating root-pains are severe.

The indications for surgical intervention in cases of spinal traumatism, when there is evidence of injury to the cord, have given rise to much discussion. On the Baconian principle that "it is easier to evolve truth from possible error than from certain confusion" and for the sake of having some tangible and definite rule for conduct, I have always divided these cases into three categories. (1) Those in which an operation is contraindicated because it can do no good and may increase the damage already done. To this group belongs the traumatic hæmatomyelia, a not uncommon lesion, one easily recognized from its symptoms alone and without radiographic aid, and one which, up to a certain point, is recoverable by natural processes of repair. (2) Of these cases we have had twelve. Cases of fracture-dislocation, which are relatively common, and which, so far as we know, are beyond all hope of restoration, owing to the complete transverse nature of the lesion. In these operation can do no harm, but is an unjustifiable ordeal for both patient and operator. (3) Cases of partial injury to the cord with symptoms which are increased and perpetuated by pressure from a foreign body, such as a fragment of bone or a bullet, form a group in which an operation undoubtedly will do good, provided it is so conducted as not to aggravate, by further traumatism, the already existing symptoms. All of these conditions are commonly regarded as surgical, and I have mentioned them for the sake of emphasizing certain limitations which should be recognized. Not a few cases of hæmatomyelia have come under my notice in which the symptoms were markedly aggravated by surgical meddling, and I have known many cases of

total transverse lesion which have been needlessly subjected to a laminectomy.

I do not hesitate to confess that elements of error may be present in this working division. For it is possible that certain cases of focal hemorrhage into the substance of the cord, like similar conditions in the brain, may come to be considered surgical disorders. Again, we are not in a position to say with finality, that divided spinal tracts are incapable of regeneration; nor can we always be certain that a complete transverse destruction of a segment and not a partial injury with a physiological "block" of the remainder is indicated by the disturbances of function caudad to a lesion. Undoubtedly either of these conditions might give rise to an immediate total flaccid paralysis, an absolute anesthesia up to its segmental level, a total and permanent loss of deep, and a progressive diminution and final loss of the superficial reflexes. Collier's recent studies\* offer strong evidence in favor of some regenerative power of the conducting paths, and they show, furthermore, that the supposed symptoms of an anatomically total lesion are not unequivocal. If this assumption proves to be true, even the cases falling into my second group become as urgently operable as any, inasmuch as "the onset of the flaccid state in compression paraplegia is a sign which indicates that operative interference for the relief of pressure must be undertaken at once, if it is to be of any avail; for the total physiological abrogation from compression signifies the presence of serious evascularization, and the inevitable sequel of such ischemia—irreparable degeneration—cannot long be delayed."

Only in the long standing cases, therefore, which present undoubted evidences of transverse destruction, no matter whether the lesion in its transverse extent originally was or was not complete, is an operation to be considered utterly futile. But though a laminectomy will avail nothing, much may be done in a palliative way even for these hopeless cases. Most important is the care of the bladder, and in view of the functional isolation of the lower sacral segments, it is a wise routine practice to institute permanent drainage by a perineal or a suprapubic cystostomy. The procedure is a simple one, indeed, not even requiring a local anesthetic, for in low level lesions the perineal operation may be carried out, and, providing the cord injury be above the twelfth thoracic segment, the suprapubic route may be chosen. From either the gain to the patient in comfort and tidiness, and to the attendant

\*Collier. The Effects of Total Transverse Lesion of the Spinal Cord in Man. Brain, 1904, Vol. 27, p. 38.

in freedom from responsibility is immeasurable. Nothing is so provocative of pressure decubitus as the maceration of the skin from a dribbling bladder, and nothing so inevitably follows frequent catheterization as a terminal infection.

Did the scope of this address permit, many other problems connected with the surgery of the spine might be taken up; as, for example: Under what circumstances should the pressure palsies following a tuberculous spondylitis be treated by the open method? What may we expect from sensory root division or excision of the dorsal root-ganglia in the intractable neuralgias which may follow amputations or herpes zoster? What diagnostic value is to be attached to the measurement of tension as well as to the cellular content and chemical composition of the cerebrospinal fluid obtained by lumbar puncture? What of the administration of medicaments by this route and for what physiological reason has spinal anesthetization by cocaine fallen into disgrace? The discussion of these questions must be left for another occasion.

#### THE PERIPHERAL NERVES

Of the many comparatively new discoveries that have a practical bearing upon the surgery of the peripheral nervous system, both somatic and splanchnic, much could be said, both in regard to the successes as well as in explanation of the failures in this more familiar field of neurological surgery. At present I must content myself with the brief presentation of some few of them.

The process of repair, that precedes the restoration of function in injured and degenerated nerves, represents the key to the situation. This must be found before the last word on nerve suture and nerve anastomosis can be said. Some of the most important and suggestive pieces of scientific investigation of recent years have been directed toward the solution of this problem, and, although the quest is not yet ended, many of the facts, which have been brought to light during its course, have proven of clinical importance through their practical applicability. The doctrine, commonly accredited to His, that each nerve fibre is an outgrowth of a single cell, the two making a nerve unit, for a long time met with universal acceptance. More recently, however, strong opposition against this view has developed owing to the studies of Bethe, Nissel, Dohrn, Schultze and others, who claim that the fibres do not grow out from the central nerve cells, but arise independently in the periphery from chains of cells which ultimately represent the sheath of Schwann and which only

secondarily become united with the central cell. If this view proves to be correct, and if the histological and functional changes, which Huber and Howell, Bethe, Ballance and Stewart, and many others have observed to take place in the peripheral end of a divided nerve, without any discoverable reunion with its central end, prove actually to be regenerative processes of the nerve, the possibilities of future work on the peripheral nerves promise to be enormous. If, for example, in anterior poliomyelitis, though the central cell is destroyed, there is some tendency toward restoration on the part of the Schwann cells of the fibre itself, there will be at least a preparedness of the fibre, if subsequently given an opportunity, to make functional connections with other cells.

It must be confessed that the unequivocal acceptance of these views of peripheral autogenetic regeneration has received something of a check through the more recent publications of Langley and Anderson,\* who have indicated some of the possibilities of error, particularly in Bethe's investigations. Again, the recent discoveries made by Dr Harrison† can hardly be brought into harmony with Bethe's views. This investigator has shown that if, in a frog embryo, the ganglionic crest, destined to give rise not only to the dorsal root-ganglia, but also to the cells of Schwann, be removed, naked motor axis-cylinder processes will grow from the remaining intact ventral portion of the rudimentary cord, and make their normal functioning connections with the muscle plates. Further, in studying the outgrowth of the fibres from the cells, he has observed that there is a definite wandering or ameboid property of the axis-cylinder process—a discovery which, if correct, completely disproves the postulate of Hensen, that there is some original connection with the periphery which serves during growth to draw the nerve out to its ultimate terminus. Harrison's observations, on the other hand, would indicate the existence of an active outgrowth, influenced by some chemical affinity for its field of destination. In some such way the central ends of divided fibres actively tend to regain their peripheral connections and succeed in doing so unless there be some mechanical interference in the tissues to prevent this. Whether or not there is an autogenetic process of repair in the isolated end of the fibre, or whether the central cell plays the entire part, or, what is not improbable, whether both factors are together

\*Autogenetic Regeneration in the Nerves of the Limbs. *Journal of Physiology*, 1904, vol. 31, p. 418.

†Neue Versuche und Beobachtungen über die Entwicklung der peripheren Nerven der Wirbeltiere. Bonn, 1904.

concerned,\* must for our purposes be looked upon as a secondary consideration; it is this normal active chemiotactic tendency to unite which chiefly concerns us. In their laboratory experiences, investigators into the problems connected with autogenetic regeneration have found that the greatest difficulty arises from the fact that it is almost impossible to prevent some reunion of nerve fibres, with their original central ends, or with the central ends of fibres from other sources, which have been unavoidably cut through during the operation. This fact is worthy of mention, because we have hitherto been taught that such a reunion is not to be expected, unless the fibres of a severed trunk are encouraged to find their proper connection by a surgical approximation of the stumps with suture or other means. Possibly, however, this teaching is wrong; for it seems probable that unless there has been some gross error in technic—as from the accidental interposition of some other tissue, or a loss or necessary extirpation of a large portion of a nerve,—the ends will reunite of their own accord. In the smaller peripheral nerves divided during an approach toward deeper parts, we know this to be the usual result, and the more dry and skillful and careful the dissection, and the more painstaking and accurate the apposition of the parts during the closure of the wound, the more complete and rapid will be these reunions. Perhaps these changes can be best appreciated by making a careful study of the post-operative areas of cutaneous anesthesia and motor palsies after extensive dissections, such, for example, as are necessitated during a complete excision of the glands of the neck. In these cases an examination will show that, when the wound has been carefully closed, the anterior cutaneous branches of the cervical plexus and the spinal accessory, which are almost always injured, invariably reunite, even when no attempt has been made to suture them, whereas after a rough operation and a hurried and careless closure of the wound they will not. The same thing is true after operations over the parotid region in which the N. facialis is so liable to injury. We have always been taught that incisions in this region should be made parallel to the facial fibres, but the textbooks in general contain no such warning in regard to operations elsewhere on the body (except in regard to the musculospiral, external popliteal nerve and a few others), because the resultant disturbance, whether motor or sensory or both, being unobtrusive and unlooked for, escapes observation. But to take these points

\*It does not seem at all improbable that it may be some chemical affinity, exerted by the proliferating cells of Schwann at the periphery upon the ameboid-like downgrowth of the axis-cylinder processes, that leads them to their proper destination. Both factors may, on such an explanation, be actively influential in the regenerative process and not one of them alone.

into account, even in the case of the smaller and less significant nerves, should not be regarded as finicky surgery. Avoidance of injury to nerves, large or small, must always be a desideratum in operations. Here, however, I would only emphasize the fact that after such divisions, as are often unavoidable, a careful approximation of the tissues, the avoidance of blood clots and points of necrosis—the organization of which increases the density of the resulting cicatrix—will serve to bring the severed ends of the nerves sufficiently near together, so that the chemotactic influence, whatever it may be, will suffice to bring about reunion. The same is true of the larger nerve trunks, and I doubt not that the suture material used in apposing the stumps of divided nerves, by increasing scar-formation, frequently serves to defeat the very ends for which it is employed.

Langley in the course of his investigations was the first, or among the first, to put to experimental test the possibility of nerve crossing, through which has been opened up such a promising field for peripheral nerve operations. During the process of reunion of a divided nerve it is hardly conceivable that each fibre will make connection with its own original fibre in the peripheral stump and thus find its way to its original end organ. If this is so, why should it not be possible to graft the peripheral end of one severed nerve, whose central connections have been destroyed, with the central end of another nerve of like nature, which has not suffered injury? It has been shown that not only is this possible, but that, at least for the extremities, a reeducation of the central activities takes place, particularly in young individuals, to such a degree that practically the normal function is resumed, one group of cells sufficing to preside over its own, as well as over the territory of the nerve originally injured, proving itself capable, as it were, of driving a team as well as a single horse. More simple even than in the case of mixed nerves would seem to be possibilities of anastomosis between two purely somatic efferent nerves, and the idea of grafting a neighboring intact motor nerve into a paralyzed facial branch, in the hope of overcoming the seriously obtrusive deformity, occurred a few years ago almost simultaneously, to surgeons in England, France, Germany and this country, and was acted upon with results which doubtless are known to you.\*

In three of my own cases I decided upon the spino-facial

\*The bibliography of the subject will be found in Ballance and Stewart's article in the *London Lancet*, May, 1902; and at the end of the writer's paper in the *Annals of Surgery* of the same date.

form of anastomosis; and though the hypoglossal, from what would appear to be merely conjectural reasons, is favored by others, the functional results after the latter operation seem in no instance to have been comparable with those after the spinofacial grafts. But no matter by what method they may be performed, anything short of an absolutely perfect result in these cases will show itself plainly by some aspymonectry during the finer expressional movements. This would not be the case after anastomoses between the limb nerves, and it is here, in dealing with the paralyses of anterior poliomyelitis, that we may expect to find the field of greatest promise for the application of these principles. Let us take a simple illustration. Terminal paralyses or palsies of certain groups of muscles characterize the residual features of an anterior poliomyelitis. The destruction of the ventral horn-cells is most intense in certain spinal segments;\* the cells of the adjoining ones, having suffered less severely, ultimately resume their normal activity and so, up to a certain point, the early widespread paralyses disappear. Thus, let us suppose that the ventral horn-cells, which give origin to the fibres of the peroneal nerve and which are clustered largely in the first sacral segment, have been for the most part destroyed. A paralysis of the peronei and of the extensors (dorsal flexors) of the toes and ankle results, leaving the foot and ankle unbalanced and often useless, owing to the lack of opposition to the pull of the sound flexors and supinators. If done at the proper time, an intentional section of the degenerated peroneal nerve and an implantation of its peripheral stump into an incision made into the functionally intact internal popliteal should restore the balance as no tendon transplantation could possibly do; for, unless there is some flaw in the entire argument, the divided central ends of the internal popliteal fibres should, without discriminating between them, grow down and make connections with the originally degenerated fibres of the peroneal and also with the newly degenerated ones that lead to the nerve's natural field of peripheral distribution. Many of these operations have already been done, and it remains only to determine the time most advantageous for the anastomosis. It is probable that, after it has become evident what the extent and what the seat of the residual palsy is likely to be, the earlier the operation is carried out the greater will be the probability of success.

\*Segmental in much the same way as is the best known of the diseases of the dorsal root-ganglion cells (*herpes zoster*) for which Head has suggested the name posterior poliomyelitis. The toxic agent, whatever it be, has an especial affinity for one or the other variety of these cells. There is usually a rapidly acquired immunity which spares the remaining cells, and which usually persists for life.

Possibly just when the peripheral changes in the degenerated nerve, supposed to be reparative in nature, are at their most active stage may be the most desirable time. Certainly, after these changes—whatever be their nature—have retrogressed and the muscle spindles and end-organs have atrophied, the chances for restoration of control are much diminished.

More complex problems arise when the paralyses are diffuse and scattered; as, for example, when the movements at the knee and hip are affected or the upper arm is palsied. On one child from Dr Thomas' clinic, that presented this extreme type of paralysis partially involving all four extremities, I have done several operations. In the upper cord the fifth cervical segment was particularly the seat of injury, the deltoids being absolutely and the biceps muscles in large measure paralyzed. The spinal accessory on each side was sacrificed and anastomosed into the upper root of the brachial plexus.\* Later we propose to carry out an anastomosis of the lumbar plexus by an abdominal operation in the hope of restoring power in the thigh sufficient to let the child stand and possibly walk. Of course in cases of this kind no tendon-transplantation could be of service.

It is quite possible that there are many other maladies that may be greatly benefited by measures conducted along these same lines. Kennedy, it will be remembered, cured a patient who was suffering from an extremely trying facial (motor) tic by deliberate division of the N. facialis and subsequent spinal anastomosis. After reading some of Bethe's experiments, I have long wished for an opportunity of trying the anastomosis of central end to central end of the nerves of amputation stumps in cases of intractable neuralgia originating in the so-called amputation neuromata. Unions of this nature, the "polarity" of the opposed ends being the same, are of course unaccompanied by any functional transmissibility in the nerve, but they probably would suffice to prevent the formation of a terminal and painful tangle of outgrowing axones.

The possibilities of nerve anastomosis do not end here with the grafting of like upon like, for Langley† has demonstrated the surprising fact that nerves, normally subserving a different

\*This means of course that in order to reach its proposed terminals in the deltoid, etc., the fibres of the N. accessorius must become abnormally lengthened: the possibility of this Bethe has shown on experimental grounds by crossing the two sciatics, and Langley and Anderson also by grafting the crural into the sciatic.

†Langley and Anderson. *The Union of Different Kinds of Nerve Fibres. Journal of Physiology.* 1904. Vol. 31, p. 365. This, their most recent publication, contains a summary of their earlier work which has appeared under various titles.

function, may, under favorable circumstances, be interposed. Thus he and Anderson found that certain somatic, efferent nerve fibres, such as are contained in the fifth cervical, are capable of making a functional union with the preganglionic fibres of the cervical sympathetic, and *vice versa*. For example, the preganglionic fibres of the sympathetic may unite with the peripheral ends of the recurrent laryngeal, phrenic, or spinal accessory. It is quite within the realm of probabilities that this principle may be applied to a great number of neurological conditions, to cases of bulbar palsy, for example, or to restore tone in the muscles of a paralyzed larynx, however it may have been produced.

With these crude generalizations I must close this section of my paper on the peripheral nerves, leaving much unsaid of the particular operations, such as those for torticollis, for paralyzing lesions of the brachial plexus, whether obstetrical or traumatic, in the adult, of neurectomy for Bernhardt's paresthetic meralgia, of the operations for tetanus suggested by the discoveries of Meyer and Ransom,\* of cervical sympathectomy for glaucoma and exophthalmos and indeed of the entire surgery of the sympathetic, a large subject of itself. The particular disorders of many individual nerves,—the trigeminus, for example, in its relation to congenital nevi, herpes, morphea, neuralgia and other phenomena of disease—would alone be enough to write a book upon.

And now that all has been said which may justly be crowded into the pages of a single address, may I, for a moment, in closing, return again to my introductory theme? In talking the matter over with my surgical friends, many of them have expressed themselves emphatically against any form of operative specialization. But granting the wisdom and necessity of a general surgical training beforehand, I do not see how such particularization of work can be avoided, if we wish more surely and progressively to advance our manipulative therapy.

Are practice of hand and concentration of thought to go for nothing? Whether as the result of individual fitness, or opportunity, or training, certain things must be better understood, and from purely a handicraftman's point of view better done by one man than by another. Gowers has said that "the separation of

\*Archiv f. Exper. Pathol. u. Pharm. 1903. Vol. XLIX. They have shown that the neurones are protected with remarkable efficiency against circulating tetanus toxin, and that the central cells are reached only by the long paths of their axis cylinder processes which must first have suffered injury before the poison can effectively enter them; and that the long incubation period is taken up with this slow process of attack through the muscle "Endorganen." The toxin travels cellulitically after entering the nerve fibre and thus it is possible by an early exposure of the nerves, central to the point of lesion, and by the local intraneuronal injection of antitetanoxin to effectively combat the progress of the intoxication.

medicine from surgery is itself specialization."\* In this sense everyone specializes, and the misfortune to medicine of its long divorce from surgery, its only inductive branch, has been recently emphasized by Clifford Allbutt. We all are or should be primarily internists, but although all build on the same foundation, some by inclination or fitness prefer the mechanical side of therapy. The same principle applies to the subdepartments of medicine, and in this particular field of neurology some of those who finally focus their studies in this direction must, in aid of their scant therapeutic resources, do their own operating. What Billroth, in the early days of abdominal surgery, said of the future of medicine in general, is just as applicable to this smaller field—"Die innere Medizin müsse mehr chirurgisch werden."

\*I wish to quote in this connection a paragraph of some historical interest from John Morgan's Discourse upon the Institution of Medical Schools in America. Philadelphia, 1765. "First, I purpose to confine myself, in practice, to those cases which belong most immediately to the office of a Physician, that I may prescribe for and attend such cases to greater advantage. I shall therefore avoid, all I can, interfering in the proper business of surgery, viz., manual operation."

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## The Prognosis and Treatment of Aortic Regurgitation, with Report of Four Cases

BY M. J. LICHTY, M. D., CLEVELAND

Before considering the prognosis and treatment of aortic regurgitation, which will be discussed rather briefly, let me report four cases in which this lesion was found.

Case I: In March, 1902, I was asked to see Mr L. E., a student, aged 19. At the age of seven he suffered from an attack of inflammatory rheumatism, with a supposed good recovery. At 16 there was another attack which resulted, according to his own statement, in an endocarditis with valvular leakage. He, however, made a fair recovery but was warned against strenuous work and exercise. When I saw him in March, 1902, he was having a third attack of rheumatism, and had been ill several days. Both knees were affected, his temperature was very high and the pulse was rapid. He had much pain in the knees and some distress over his heart, was very restless and dyspneic with a little cough. He was not cyanotic but there were marked pulsations in the neck, over the heart and in the abdomen. The liver was easily palpable. There were no thrills over the heart, but it was palpable to the right of the sternum and in the left seventh intercostal space and anterior axillary line. Dulness extended from a half inch to the right of the sternum to one and a half inches beyond the left mammillary line. There was a loud mitral systolic murmur transmitted beyond the angle of the scapula, and a loud diastolic mur-

mur transmitted from the aortic area to the apex of the heart. The water-hammer pulse was marked, and he had a very pronounced capillary pulsation. It was a plain case of inflammatory rheumatism with aortic regurgitation, mitral regurgitation, dilatation and hypertrophy of the heart, as well as passive congestion of the liver and lungs. His pulse at all times was regular and rhythmic. With the vigorous use of salicylates externally and internally, together with alkalies, his pain subsided in a few days, and in less than a week his temperature returned to normal. At the end of three weeks the patient left his bed in spite of my protest. When he called at my office, April 17, the heart action was violent, the liver enlarged and pulsating, and there was much dyspnea. He called again, April 26, when it was found that the murmurs were louder, the pulse slower, and he felt more comfortable. May 10 to 15 he had a slight return of the rheumatic pains with a temperature of 100° to 102°, but a pulse of only 72. He was so severely censured for calling at my office that he returned to his room, kept quiet for several weeks, took the remedies prescribed, and managed his own case. Eventually, however, he did accept my advice and in June returned to his home in a neighboring city, and went to bed at almost absolute rest for several months. In August, 1903, he was again seen suffering with a condition which fortunately gave no more annoyance to his heart. The heart at that time was back in the sixth interspace, the pulse was good, but the aortic and mitral leakage remained as before. Two weeks ago he was again seen at my request. He now has no dyspnea, no vertigo, and though his pulse is regular and rhythmic it has a very sudden drop. The aortic second sound is easily heard in the neck and carotids. The apex of the heart is in the sixth interspace an inch beyond the nipple line, and there is no hypertrophy of the right ventricle. The liver is not enlarged, and the patient now 21 years old, and engaged in the study of law, feels apparently well. This, then, is a case of aortic and mitral leakage with eccentric hypertrophy, which in spite of alarming symptoms two years ago is now surprisingly convalescent.

Case II: In January, 1903, I was asked to see, in consultation, Mr H. F., aged 47, who was in bed with an attack of rheumatic sore throat. Two years previously he had a prolonged attack of inflammatory rheumatism. Previous to that time he always had good health. The patient was found half propped up in bed, and could not turn upon his right side but could lie fairly comfortably upon the left. He had a rapid, full pulse somewhat irregular, and a high temperature which had been more or less irregular. Examination of his heart showed a precordium that was bulging, an apex beat displaced downward and to the left. Dulness extended from the right border of the sternum to the left anterior axillary line, and auscultation showed distant muffled heart sounds. At the apex there was a soft systolic murmur transmitted toward the axilla. Occasionally a to-and-fro friction fremitus could be heard and felt at the base of the heart. These signs,

the attending physician said, were more distinct 12 hours before. There was a dull note and bronchial breathing over the entire lower portion of the left lung. The case appeared like one of pericardial effusion with a mitral insufficiency. The following day I noticed a water-hammer pulse and an aortic diastolic murmur. The patient was very weak, his pulse was more irregular, and his life was in danger. After a few weeks' treatment, however, this effusion was gradually absorbed, there was a nice friction redux at both the base and apex of the heart, and the mitral and aortic murmurs gradually grew louder. He was in bed throughout February and March, but visited me at my office in April, and in May returned to work at his office. He then weighed 170 pounds, and felt almost as well as ever, but had an aortic leakage, mitral leakage, and left ventricular hypertrophy with the apex beyond the nipple line and in the sixth intercostal space. He had another similar, though less severe, attack of rheumatism and endocarditis in March, 1904, from which he has recovered remarkably well. When seen several days ago his pulse was strong and regular, but with a rather sudden collapse. The apex impulse is now in the fifth interspace and the nipple line, the aortic diastolic sound can be heard in the carotids, but the mitral murmur is not to be heard.

Case III: July 10, 1903, I was called to the Cleveland General Hospital to treat Mrs L., aged 67. I saw her rather late in the evening after she had spent a day and night in traveling, returning from a sanitarium in Tennessee. I have seldom seen a patient in an apparently more desperate condition. Her feet and legs were dropsical, and the abdomen was half filled with fluid. She had not been able to lie down for several weeks previously. She was cyanotic and orthopneic. There was no temperature but the pulse ranged from 100 to 120, was weak, irregular, arrhythmic, and of the Corrigan type. The liver was enlarged, extending below the umbilicus, and there was a positive jugular pulsation. The urine was scant, less than 20 ounces, highly colored, but there was no albumin and only a few hyalin casts. The bowels were loose, and the patient was without any appetite. Examination of the chest showed emaciation, oblique ribs, and hollow intercostal spaces. The apex impulse was in the ninth intercostal space and the posterior axillary line. There were no thrills over the heart. The area of dulness extended from the left anterior axillary line to the right sternal border. There was a soft mitral systolic murmur transmitted beyond the angle of the scapula, and an aortic diastolic, from the base of the heart to the apex. There was a distinct impulse in the right fourth and fifth intercostal spaces, and in this area as well as to the left of the sternum there was a systolic murmur not transmitted, but different in character from the mitral murmur. The case seemed like one of aortic regurgitation, mitral regurgitation, very likely tricuspid regurgitation, hypertrophy and dilatation of the heart, as well as a more or less fibroid change in the heart muscle. To determine which of the lesions was primary and which secondary was not very important.

This patient had never suffered from rheumatism. She is the mother of two children, and until the birth of her last child, 28 years ago, she had extremely good health. Since that time she says she knows she had "heart disease," as she judged from her palpitation, distress over the heart, and dyspnea. But only during the last year was there marked dyspnea, and dropsy came on only a few weeks before I first saw her. Her condition was so alarming that we could hardly expect her to live more than a few days. Vigorous treatment was undertaken however, using cathartics, vapor baths, cardiac stimulants and diuretics. In less than a week she was able to rest all night in bed, and took considerable nourishment. At the end of three weeks she was carefully removed from the hospital, and the apex of the heart is now in the sixth intercostal space and an inch beyond the mammillary line. The pulse remains arrhythmic and irregular, with its water-hammer and capillary features. The leakage of the aortic and mitral valves is still very great. Recently there has been observed an aortic systolic murmur transmitted into the neck, but no diastolic sound is heard over the carotids. Since January, 1904, there has not been a trace of dropsy in her legs, and she moves about the house very freely, even climbs the stairs and takes short walks upon the street.

Case IV: W. S., a boy, aged 15, at nine years of age had an attack of inflammatory rheumatism complicated with endocarditis and aortic leakage. He, however, made a good recovery and during the last five years was as healthy as most boys. In April, 1904, he had a second attack of rheumatism which was quite severe. He was not sick more than a few days when, April 22, I was asked to see him through the courtesy of Dr Parker. At my first visit it was easy to see that he had an aortic regurgitation. This was the only valvular lesion at that time. His temperature was very high, pulse rapid, with a quick fall; his joints were swollen, and the body was covered in large patches with a rash, erythematous in character and slightly elevated. These patches were irregular in outline and most marked upon the abdomen and thighs. He had drenching acid sweats and a very irritable stomach which made the administration of drugs quite difficult. After a few days one could notice a gradual dilatation of the left ventricle with an associated mitral leakage. The apex was now in the seventh intercostal space. A to-and-fro friction fremitus could also be felt and heard at the base of the heart for several days, but the pericardial sac did not fill with fluid. At the end of two weeks of careful and anxious treatment his temperature dropped to the normal line, and from that time on he made a speedy recovery. He remained in bed at absolute rest throughout the month of May, and during the first two weeks in June was in bed most of the time. Since then he has been allowed to move about freely in his home, and now goes up and down stairs without any dyspnea or any appreciable acceleration of the pulse. He seems quite well, but is required to hold himself in check. When

last seen, July 28, the mitral leakage could no longer be demonstrated. The apex is in the sixth intercostal space beyond the nipple line and the aortic leakage is still a marked feature, though the pulse is regular and rhythmic and does not have so quick a fall as previously, neither is the capillary pulsation so easily seen. The aortic second sound can be heard in the first intercostal space and in the carotids.

You may have noticed that these four cases have passed through stages when their condition was critical and the life of each was in danger. They are, however, all living today. Two of the four are very active in their work; one of them, the boy most recently affected, is likely ere long to be as well as he was a year ago; and only in one case, that of Mrs L., now almost three score and ten, is the prospect for many years extremely unfavorable. The question now arises as to a rational prognosis in these and all cases of a similar nature. The answer at once submitted, "that it all depends," is not likely to be disputed, and should not be regarded as evasive. Most observers agree that of valvular affections aortic leakage is second in frequency, and, placing tricuspid regurgitation as first, it is second in severity. But in spite of the fact that this lesion is the one most frequently terminating in sudden death (and it has been estimated that about one-tenth of all cases of aortic regurgitation die suddenly) there are several conditions which if present warrant a rather favorable prognosis. Thus it is more favorable in the young in whom arterial changes and changes in the heart muscle itself have not yet taken place. It is said to be more serious prior to the age of puberty, but becomes more favorable after that until early adult life. Broadbent claims that after the age of 21 the prognosis becomes less favorable, though he also admits that it becomes a more difficult matter to keep these patients under observation after that age. He also gives a more favorable prognosis in case the aortic regurgitation be secondary to acute endocarditis if three physical signs exist. These three favorable conditional signs are as follows: First, the aortic second sound is distinctly audible in the neck. Second, the pulse exhibits the collapsing character only in a moderate degree. Third, the dilatation and hypertrophy of the heart are inconsiderable. Under these circumstances he thinks the lesion is slight, that the patient may enjoy life and do hard work for many years. One, however, must not despair of all cases who do not have these three favorable signs. Of the four cases just reported, one, Mrs L., shows not one of these signs and yet she has lived more than a year and improved in spite of them. Mr

L. E., aged 21, has one sign only. W. S., aged 15, has two of the favorable signs. Finally, H. F., aged 47, has all of them; but at the same time it seems that all have more or less in their favor when we consider the dangerous period through which they have passed and the fair state of health which they now enjoy.

Before passing it may be well to mention some of the unfavorable signs, such as quick collapse of the pulse, great hypertrophy and dilatation of the left ventricle, associated mitral leakage, fibroid changes as indicated by the irregular and arrhythmic pulse, together with dropsy and passive congestion of other organs. When one or more of these unfavorable conditions is associated with the aortic leakage one is not warranted in promising a favorable outlook. If perchance the patient recovers considerably in spite of such unfavorable conditions it must be considered the exception and not the rule, and can be credited only to good care on the part of the patient, attendants and physician, or personal vitality. This latter element no doubt has been the predominating feature in the oldest of the cases here reported inasmuch as she, in spite of her age and adverse signs for a favorable prognosis, has after all made a considerable recovery.

The treatment of aortic regurgitation, as in most cardiac affections, can be considered under two heads, those with compensation and those without it. The first requires only care, the last both care and interference on the part of the physician. "Perhaps more can be done to prolong life and postpone suffering in aortic regurgitation than in any other form of valvular disease; at any rate, it is in this disease that the greatest difference can be made by care on the one hand and imprudence on the other." (Broadbent.) Reference should here be made to the very excellent chapters on the treatment of this condition by Babcock, of Chicago, in his recent work on "Diseases of the Heart and Arterial System," compared to which anything here suggested is simply an outline. In my estimation no case of aortic regurgitation should be allowed to take care of itself. It is the duty of the physician to manage the patient's life and actions. Most careful and painstaking examinations should be made from time to time, and notes on the existing condition should be constantly made. So long as this is done the cases with compensation are likely to remain in fair health. Such examinations with guarded advice are the only checks to hold the patient in. Here might be considered occupation, clothing, bathing, diet, exercise, and dangerous dissipation whether from alcohol, venery or excessive work; influences of climate and

traveling, together with vacations; all these are matters which should be discussed frequently, frankly and minutely with the patient. The value of frequent periods of cessation from work or indeed periods of absolute cessation from work with rest in bed cannot be over estimated. A single rash act may destroy compensation.

When, however, compensation fails there is quite another problem to face, and whether such failure be from over-work or some intercurrent affection, the treatment is practically the same. The patient must be put to bed at absolute and prolonged rest. There should be enforced use of the bed-pan, and absolute quiet with a wholesome and nutritious diet. Here indeed a single rash act may be fatal. Mental quiet even must be insisted upon. I have seen harmful effects from fits of anger. Medical treatment is purely symptomatic. Complications, such as dropsy and passive congestion of other organs or recurrent febrile attacks, as of inflammatory rheumatism, must be treated as at other times, but with more vigor. The simple febrile condition of itself is not always harmful, and, as observed by another, has even been of ultimate advantage. For dropsy, sweating and purging with at the same time the use of diuretics are urgent. For cyanosis venesection has been used with advantage, but for failing compensation, together with irregular heart action, digitalis is the drug *par excellence*. Occasionally one hears an outcry against digitalis in this affection, but it has so many staunch supporters, and I have seen so much good from its use, that I should not feel safe in substituting any other remedy for it. At times the stomach does not bear the remedy well, under which circumstances a preparation of the tincture known as "fat free" is perhaps more easily tolerated. I have used the tincture in five to 15 drop doses continuously for weeks, and when there was a tendency toward cyanosis, with feeble irregular pulse, I have used larger doses of 20 to 30 drops and even more for 10 to 14 days, or until its effect was marked on the pulse. I have never seen cumulative effects from digitalis and doubt such action. One of the patients reported has used digitalis more or less continuously in fair doses for six months. Another required big doses for several weeks before the desired full steady pulse was acquired. Other remedies which are used with advantage in failing compensation are strychnin and caffein, and to these I would add several other remedies which I have found of great service especially in the convalescent stage. They are the iodids, iron in the form of the

syrup of the iodid, and arsenic. They have a good alterative and tonic effect. During this stage I have found it beneficial to use arsenic more or less continuously, and to alternate digitalis with some form of the iodids each succeeding week. As these patients are often somewhat anemic the iron and arsenic are especially useful. Broadbent has called attention to the great value of arsenic and phosphorus in aortic regurgitation.

Whatever the treatment or prognosis, the dictum of Clifford Allbutt is certainly applicable here to "give your prognosis on the best suppositions, treat your patient on the worst."

692 Genesee Avenue

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### The Cleveland Medical Library Association

The annual meeting of the Cleveland Medical Library Association, held on Saturday evening, December 10, marked the close of another successful year in the history of the Association. An encouraging feature in regard to the Library is the more general use made of its facilities by the younger men, who are allying themselves with this institution in increasing numbers. When it is remembered that the full use of the Library may be secured at a cost not exceeding that of a subscription to a single standard weekly medical journal it will be acknowledged that few indeed need feel themselves debarred from enjoying its privileges.

Very considerable additions have been made to the Library since the last annual meeting, a commendable number filling gaps in the files of periodical literature, of which the greatest use is made in a reference medical library. The necessity for more and fire-proof stack room is reported to be pressing. Some time since the second floor of the building had to be supported on account of the load placed upon it, and now, while perhaps in this respect safe enough, all available shelf room is practically in use. Steps should, and doubtless will, be taken at once to see that the growth of the Library is not prevented by lack of room.

A large attendance of members and friends greeted the guest of the evening, Dr George Ben Johnston, of Richmond, Va., who gave a very interesting account of the Medical Men Contributed to the United States by the State of Virginia. At the close of this address, which was much appreciated, Dr W. J. Wanless, of India, spoke, at the invitation of the President, Dr Allen, upon the opportunities and experiences of the medical missionary in the orient.

The following officers were elected for the ensuing year: President, Dr Dudley P. Allen; Vicepresident, Dr D. H. Beckwith; Secretary, Dr Edward Lauder; Treasurer, Dr H. G. Sherman; Librarian, Dr C. A. Hamann.

# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
{ THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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## EDITORIAL

### Recent Papers on the Cancer Problem

The work done on this subject has until recently been unsatisfactory on account of the lack of connection between the various observers, and much of their energy has been expended in personal recrimination. In a problem of such magnitude, and one whose solution must needs have so far-reaching an influence, no one or two men can satisfactorily attack all the aspects, and the appreciation of this fact has brought about a change of method. In the last few years several commissions and laboratories have been established for the investigation of the etiology and transmissibility of carcinoma, and some extremely valuable work has been done.

The New York State Cancer Laboratory at Buffalo, the Boston Cancer Commission, the Cancer Research Fund of the Royal College of Physicians in London, England, and the German Cancer Commission, are examples of this movement. The published work of the New York Laboratory is in favor of a parasitic cause, but the results claimed are as yet based on too insufficient grounds to have any weight.

In direct contradiction to this work, the Boston Commission, in two successive yearly reports, states as their belief that whatever the cause may be it has nothing to do with the parasites which have been brought forward by other observers as etiologic factors. They do not, however, offer any other suggestions. The German Commission rather leans to the parasitic theory, but there is no general acceptance of this idea. The last commission report is from the English laboratories, and is of much interest. The subject has been attacked from an unusual point of view, which deals with the matter from a purely cytologic standpoint, and enters more or less deeply into the comparative pathology of the disease.

Farmer, Moore and Walker, in a paper before the Royal Society in December, 1903, stated that they had found a different form of cell division in the cells of the inner part of the tumors from that occurring in the outer layers. This difference in brief consisted in an increased size of the cells, and a mitosis of a type quite different from that seen in ordinary repair and inflammation, resembling rather the form seen in the spore mother cells of plants and the spermatocytes of animals. The observers also noted other forms of division, with a reduction in the number of chromosomes analogous to that seen in the second ripening division of sexual cells in animals which is supposed to be the reduction of the naturally hermaphroditic cells to the male or female condition. They argued from this that malignant tissue was virtually reproductive tissue arising in unusual places, and possessed of a definite independence of growth similar to that of the testis. This valuable work has been followed up by Bashford and Murray, who studied many tumors in man and compared them with a great variety of tumors in animals of different kinds. The histologic findings of the previous paper were practically confirmed, especially the fact that these peculiar forms of division were confined to a very limited part of the tumor, the free borders showing mitoses similar to those seen in repair of inflammation.

#### TRANSMISSION OF MALIGNANT TUMORS

The second part of the paper deals with the transmission of malignant tumors from one animal to another, and while the negative results obtained in attempts at inoculation of tumors from one kind of animal to another were repeated, they were able, as has been done by Loeb and others, to transmit tumors from one animal to another of the same species. They found that while the greater part of the transplanted material underwent degenera-

tion, the remaining part began after a period of varying length to multiply, and a definite tumor formation took place without the participation of the cells of the inoculated animal. Estimation of the weight of the tumors obtained by successive transplantations showed that in a series of white mice a total mass of 16 pounds weight was obtained, and the last transplantation showed practically no departure from the original. The same peculiarities of mitosis observed in the original tumor were also noted in the various transplantations, and in the same relations to the parts of the tumor mass.

Malignant tumors have been studied in various animals, in birds and in fish, most of them some type of carcinoma, some, however, apparently sarcoma. These growths are always local in origin, and of themselves produce no evident constitutional disease whatever. The authors believe that cancer "is a localized and irregular manifestation of a process otherwise natural to the life cycle of all organisms," and believe this to be the reason that these tumors have no specific symptomatology. The work is of great interest and very suggestive though of course very incomplete. The writers state that the cells which undergo this peculiar form of division are not responsible for the active invasion of tissues nor for the production of metastases, but the cells with the somatic or ordinary form of division are responsible for both. Further that the number of these atypical mitoses is not an indication of the degree of malignancy, nor is their absence sufficient evidence of the benign character of the tumor. They believe the cells of this type to be a terminal phase in the life cycle of the cancer cell, as it is in the history of sexual cells in animals. They consider that cancer is analogous to an invading organism as a whole rather than to any one of its tissues, reproductive or otherwise. The paper is really little more than a preliminary communication, but opens a wide field for conjecture and research. The work is being carried on systematically by the same series of observers, and the absence of controversial discussions is encouraging. As time goes on students of general pathology are driven more and more toward comparative pathology for the solution of the many problems which confront them, and many conditions are being discovered in the lower animals which are surprisingly analogous to those which have been for many years claimed as the special property of man.

## The Function of the Corpus Luteum

The exact function of the corpus luteum has always been a matter of conjecture. The prevailing opinion has been that it is merely the source of repair of the cavity in the ovary left after the rupture of the ripe graafian follicle. An important contribution to this question has been made by Fraenkel in the *Arch. f. Gyn.*, Bd. LXVIII. The striking resemblance of the corpus luteum to certain glandular structures, notably the liver, suggested to him that it is concerned in the production of the internal secretion of the ovary, whatever it may be. That there is some internal secretion of the ovary seems generally accepted. The results of the removal of both ovaries effect a profound impression upon the organism as a whole and upon the remaining pelvic organs, more particularly upon the uterus. These effects of castration are most marked during the active sexual life occurring between puberty and the menopause, when the formation of corpora lutea is active, and they are usually absent in senility when the ovaries are atrophic and corpora lutea are no longer formed. Both Halban and Knauer have shown that after double ovariectomy the usual train of nervous symptoms and the cessation of menstruation fail to appear if ovarian tissue has been successfully transplanted to some other part of the body, for instance, between the layers of the abdominal incision. This speaks strongly for the existence of an internal secretion which exerts its influence upon the whole organism through the medium of the circulation. That the function of the corpus luteum is merely to repair the defect in the ovarian structure after rupture of the follicle seems highly improbable in view of its unnecessary size, vascularity and duration.

Fraenkel carried out a long series of experiments upon rabbits to determine the influence of the corpus luteum upon the implantation and development of the ovum. He found that bilateral ovariectomy or destruction of all of the corpora lutea, during the interval between the impregnation of the ova and their implantation in the uterus, invariably prevented the implantation of the ova and, therefore, pregnancy did not ensue. In destroying the corpora lutea the remaining portion of the ovary, stroma, unripe follicles, etc., were practically uninjured, showing that they have no influence in this respect. Experiments in transplantation of corpora lutea and removal of the remaining ovarian tissue were also attempted but the results were not conclusive.

If, however, the destruction of all the corpora lutea was effected from 8 to 20 days after coitus, when the ova had been implanted in the uterus, as could be plainly seen at the time

of operation, the ova invariably degenerated and were slowly absorbed; abortion did not occur. The same result occurred if double ovariotomy was performed during this period.

In rabbits a number of ova are developed simultaneously, and consequently there are usually a corresponding number of embryos and corpora lutea. He found that a certain number of these could be destroyed, and the remainder would be sufficient to prevent the degeneration of all or most of the embryos. In animals developing but one fetus there is usually but one corpus luteum and it, of course, is sufficient and no doubt indispensable.

Frund believes that the development and the nutrition of the non-gravid uterus are dependent upon the corpus luteum, and he also ascribes the menstruation of women to its influence. The flow occurs at the period of maximum development of the corpus luteum, and in cases in which this has been destroyed before menstruation has occurred the flow will not appear. If the follicle most advanced in development is destroyed, the menstrual period, which would be caused by the corpus luteum developing in this follicle, would fail to occur.

The so-called true and false corpora lutea are really identical, the former persists longer as its influence is required during the pregnancy. In the later months of gestation it atrophies, its usefulness being past. If, therefore, on account of ovarian disease the removal of the ovary is indicated during pregnancy the operation should, if possible, be postponed until after the fourth month, when the influence of the corpus luteum is probably unnecessary. Frund has experimented clinically with the administration of dried corpus luteum substance. He has found it decidedly beneficial in alleviating the various disturbances which result from double ovariotomy, and he believes it will prove a valuable therapeutic aid. The unsatisfactory results often obtained in using ordinary ovarian extracts is due, no doubt, to the lack of the essential corpus luteum substance in it.

These are the most striking results of his experiments. The others cannot be detailed here. His results seem very conclusive and may prove most valuable.

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### The Folly Continues

Another crusade in behalf of the canine has been started by the *Ohio State Journal*, which has recently devoted editorial and news space to articles protesting against the rulings of the health authorities of Columbus looking to the muzzling of dogs. We took occasion a few months ago (*Where Angels Fear to Tread*,

THE CLEVELAND MEDICAL JOURNAL, August, 1904, p. 375) to denounce this meddlesome assumption of knowledge on the part of a lay newspaper, and then predicted that the reality of hydrophobia would come into gresome evidence by the development of cases in human beings exposed to the ravages of rabid dogs. This prediction has been fulfilled, as may be verified by consulting the news columns of the Columbus papers in which notices of rabies among dogs as demonstrated by laboratory tests have repeatedly appeared. Several persons bitten by dogs shown to have had rabies have been given the Pasteur treatment, and at least two tragic deaths from hydrophobia are recounted.

It would be safer for the public, whose organ the *State Journal* professes to be, if its editor were to confine his utterances to his particular specialties, leaving the health authorities and laboratory experts to decide the ways and means of controlling the spread of rabies among the dogs of Columbus. Before more human lives are sacrificed to the folly perpetrated by the officious propaganda of the *Journal's* editor and the bigots of the Humane Society, the profession of Columbus should make its indignation felt through public resolutions condemning the *Journal's* foolhardy utterances and repudiating its insinuations that physicians and laymen are base enough to take mercenary advantage of the law enabling the victims of rabid dogs to obtain preventive treatment at the expense of the state.

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### The Report of the Ohio State Hospital for Epileptics

The fourteenth annual report of the Ohio Hospital for Epileptics is replete with interest for every one at all concerned in the conduct of similar institutions and especially for the profession of our State. The table shown illustrating the comparative financial exhibit, based on the records of the Hospital and those in the office of the Auditor of State, is quite remarkable. In this table one is able to determine at a glance the actual cost *per capita* of maintenance for the last two years, as compared with the figures for 1901. It is indeed satisfactory to know that for the last year each of the 940 patients in the Hospital was cared for at \$42.56 less *per capita* than in 1901, or to put it more plainly, to learn that some \$40,006.40 has been saved the State in the running expenses of the Hospital during the year 1904. Attention has been very justly called to the steady growth in the scientific work of the Hospital and in the general improvement in the administration which has tended to add to the attractiveness of the life of the inmates.

As illustrating the growth of the work done by this institution, it is only necessary to note the need emphasized in this report for additional cottages, for an increase in the capacity of bakery and laundry and for a suitable recreation building. In concluding his report Dr Ohlmacher calls attention to the handicap which renders the administrative burden particularly arduous in the difficulty of obtaining a high grade of service through the restrictions imposed by inadequate wages. A plea is also made in behalf of the merit system, which curiously enough seems to be so difficult to install in our State medical institutions as a permanence. This extremely interesting report is one of which we as a united body and of which our State may be justly proud, and one which can only bring great credit to the executive control that has made this splendid showing possible.

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### Annual Meeting of the Academy of Medicine

The annual meeting of the Academy of Medicine, a full report of which will be found elsewhere in the JOURNAL, was an event of no small significance in the medical history of Cleveland and Ohio. The paper of the evening was listened to by a large and appreciative audience—the largest audience, we believe, that has ever been recorded at a similar meeting. The reports of the various committees of the Council of the Academy are of more than passing interest, and we can only urge a careful reading of these reports in full as demonstrating, in detail, the vast amount of work that has been accomplished by the Academy during the past year.

To the retiring President of the Academy, Dr Geo. W. Crile, the JOURNAL offers its heartiest congratulations for all that has been accomplished during 1904, and extends at the same time its enthusiastic greeting and support to the incoming President, Dr C. J. Aldrich. The measure of success achieved by the Academy during the past year promises well for 1905.

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### Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

**Insomnia:** Bradford C. Loveland, in the *New York and Philadelphia Medical Journal* for November 5, defines insomnia as loss or absence of sleep to such a degree as to interfere with one's health of body or mind, and should not be considered a disease, but a symptom or condition. Treatment may be divided into hygienic, medicinal, and suggestive. When the cause is mental anxiety, we may be

called upon to use each variety of treatment. Clear away the anxiety, when possible, encourage the expectation of sleep, advise wholesome diversion, outdoor exercise to the point of getting tired, the warm bath, or a hot foot-bath for 20 or 30 minutes before going to bed, or possibly a spinal icebag at the base of the brain for 15 or 20 minutes on going to bed. Do anything that the physical health may require. At times a pill of camphor, hyoscyamus and valerian in the evening, repeated as required, or a small dose, say 20 grains of bromid of sodium may be used with advantage. Insomnia caused by pain will usually subside when the cause is removed, hence its cause must be ascertained and removed if possible. Sleeplessness as a complication of acute infectious diseases may occasionally require attention other than the care of the accompanying pain or fever, in which case it is not wise to use the synthetic hypnotic such as sulphonal, etc., as they are supposed to check the secretion of the kidneys and add to the general depression of the system, effects to be especially avoided in such conditions. The bromids of sodium and ammonium, and a pill of camphor, hyoscyamus, and valerian are open to such objections. Hydrotherapeutic methods also should be used. In melancholia and acute mania, when sleep must be secured at all hazards, the prolonged bath and the warm sheet-pack are most useful and may be frequently repeated. When hypnotics are used in these cases, some very positive medication is required. A hypodermic of hyoscine hydrobromide, or duboisin, 1/100 of a grain, possibly repeated in two to four hours, at times acts very well, hyoscine being rather more trustworthy than duboisin. Paraldehyde also is a reliable hypnotic in mania and does not seem to leave a feeling of depression or a disturbance of digestion. In melancholia a dose containing bromid of sodium, 20 grains, and fluid extract of ergot, 10 drops, midway between meals, and at bed time, often does excellent work. Morphin as a rule should be avoided in these cases. In a general way, in insomnia, improvement of the general tone, and correcting evils of physique or environment are essential, and of first importance; outdoor exercise, and hydrotherapy stand next in the proper treatment. The mildest hypnotic which will accomplish the result is the best, and great care should be exercised not to try to cure a case of insomnia by a plan of medication which may leave the patient a slave to the opium habit or some other nearly as bad. It is better to change the remedy every third or fourth night; in all events frequent changes in the hypnotic help to prevent too much reliance being placed on any one drug, thereby helping to avoid drug habits.

**Hydrastis:**

W. Blair Stewart, in the *Journal of the American Medical Association* for November 5, advises the use of hydrastis in many cases of chronic catarrhal conditions of the stomach and bowels, and particularly those forms of catarrh due to the effects of alcohol. The fluid extract may be given alone and in combination. It is best to begin with one or two drops in water every two to four hours, and increase gradually to 10 or 15 drops at each dose according to the results. In those cases in which a large quantity of mucus is vomited and expectorated, and there is anorexia, there was a gradual reduction of symptoms in almost every case if a strict course of dietetics was in force. Many patients will come complaining of a poor appetite, slight nausea, sometimes vomiting catarrhal mucus and subject to indigestion. A proper counsel on diet and hygienic rules is of first importance; then give from

one to six drops of the fluid extract of hydrastis in water one hour before each meal and at bed time. If there is no organic impairment of the mucous membrane, decided results will follow. If a case of enterocolitis refuses to yield to ordinary treatment, he recommends small doses of hydrastis or hydrastinin at frequent intervals until results are obtained. Hydrastinine hydrochlorate in doses of from one-fourth to one grain is an excellent remedy to control menorrhagia but is slow in its first effect. It has a more prolonged effect than ergot. It is also recommended in epistaxis, hemoptysis, hematemesis and hematuria. It is a remedy that promises much. He warns against its use in pregnant women, except with the greatest caution, as it is liable to induce abortion. Heinrich Stern calls attention to the cumulative effect of hydrastis. Hydrastis is quite rapidly eliminated as a rule mainly through the kidney. When the kidneys are chronically affected, and especially in cases of chronic interstitial nephritis, its elimination does not occur in the normal ratio, and it accumulates to a greater or less extent in the system. The symptoms of accumulation of hydrastis in the contracted kidney are headache, vertigo, blurred vision, nausea, constipation and convulsive disorders. He rarely gives more than five drops three or four times a day.

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**Uranium:** In *Medicine* for November, F. E. Tylecote (quoted from *The Medical Chronicle*) summarizes the

therapeutics of uranium, the observations being made with the nitrate. A solution of two grains to the ounce is a useful application to ulcers and abraded surfaces. It coagulates the albumin of the discharges, and forms a protective coat, and it also contracts the vessels of the part, and precipitates the albumin of the tissues. It is an astringent and mild hemostatic. In one case of obstinate gonorrhea it cured a urethral discharge in six days, in which a weak permanganate solution had had no effect. It is probable that the uranium salt has no specific action on the gonococcus, but it acts as an astringent. In administering uranium nitrate internally, the dose commonly employed was one grain three times a day, after meals, well diluted. The drug does not cause digestive disturbance. It was employed in three diabetic cases, and in every case was followed by a rise of body-weight, which continued if the dose was not pushed too far, and was accompanied by a feeling of improved spirits. The indications for the diminution or stoppage of the drug in diabetes are, a drop in weight, an increase in neuralgic pains, an increase in the sugar excreted, and a trace of albuminuria where it has not previously occurred. In three cases of chronic and stationary phthisis, a gain in weight followed its administration. One case began to lose weight again as soon as the drug was stopped, and another left the hospital and was lost sight of. The writer believes that these results warrant a further trial of uranium as a general tonic in conditions associated with wasting, such as diabetes and phthisis.

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**Nitroglycerin:** Solomon Solis Cohen, in *American Medicine* for

November 5, states that in the therapeutic use of nitroglycerin one must be guided by the response of the individual patient. Some are rebellious even to large doses, others are excessively sensitive to minute fractions of the ordinary dose. Thus he commonly gives to patients with chronic cardiac or vascular affections 1/800 or 1/400 grain at a dose—the dose being repeated every hour in some cases, and in others once in

24 or 48 hours. The effect upon the force and rhythm of the heart, the fulness and tension of the pulse, must guide us: and this varies much, not only in different individuals, but *in the same individual under different conditions*. It may seem incredible that so little as 1/400 of a grain of nitro-glycerin, given once in 48 hours, could have any therapeutic influence, and yet he has again and again verified this fact. Its value when given in this way is mainly as a preventive of periods of disturbed rhythm, and intermittence, which may exhibit a tendency to recur after regular or irregular intervals. Usually it is necessary to give the drug every second or third hour at first, gradually lengthening the intervals; but it will soon be found that a single dose daily will suffice, while the omission of the daily dose will be followed by recurrence of the symptoms; and then it will be found that every other day or even every third day will be sufficiently often for the dose. In other words, gradual improvement in the patient's functions permits gradual withdrawal of the assistance given by the drug to the regulatory mechanism of circulation. When, however, the disease has progressed too far for such prompt recovery of the normal equilibrium, the continuous use of the drug remains necessary over a longer period, and in many instances may even be necessary for the remainder of life. This is especially true in cases of fibroid changes in the vessels—even when such changes are slight, and the physician is able to hold them in check by hygienic measures and appropriate medication.

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**Elaterium:**

In the *Therapeutic Gazette* for November, Henry Sewall treats of the effect of elaterium in non-purgative doses upon edema. It is probably the prevailing opinion that so called "hydragogue" cathartics produce their watery flux solely through direct action upon the intestinal wall, and that the drying of the tissues, and the absorption of dropsical effusions is a secondary and passive result in the systemic capillaries of increased density or dryness of the blood occasioned in the intestinal circulation. He states, however, that elaterium has the power of causing the absorption of dropsical effusions irrespective of the loss of watery fluid from the blood to the bowel. He has treated 20 cases with elaterium for edema of various origins. In all but the relatively vigorous patients, the drug was given in doses of but 1/10 of a grain from one to three times a day, and it was discontinued with the advent of nausea. In about one-half of the cases, elaterium disagreed, producing nausea or rarely griping, and in most instances the diminution of the dropsical accumulations under its influence were attended with purgation. The favorable results secured through the use of elaterium, supported by other appropriate treatment, were of strikingly lasting character. He assumes: (1) That elaterium, aside from its action on the bowels and kidneys, directly excites absorption of fluid from the tissue-spaces, though the method of such absorption is still a question. (2) The action of elaterium seems to be "cumulative" over considerable intervals of time. (3) The drug may be appropriately used in most cases of edema, barring those in which there is a tendency to enteritis. (4) If it is attempted to obtain therapeutic results without inducing nausea or griping, elaterium will be found irregular and unreliable in action. Possibly better results would follow the use of its active principle elaterin.

**Iodin and Mercury:** August Stabler, in the *Medical News* for June 25, states, as a well-known fact, that the system may be permeated by small quantities of either mercury or iodin without producing any unpleasant symptoms, and he advises the use of these drugs to combat local infections. The solution of iodin which he applies to mucous membranes, and which is applied through a simple hand atomizer to throat and nose, or any part desired, consists of a menstruum made of equal parts of glycerin and water. To one ounce of this mixture, one dram of the tincture of iodin is added with a little belladonna and carbolic acid, as local sedatives. When using the atomizer, he always directs the patient to hold the tube between the teeth with lips closed in the same position as in smoking a pipe and to *breathe through the nose*. The bulb is worked vigorously, and the fine spray will be seen issuing from the nostrils, showing plainly that the whole interior of the throat and nose is covered with the spray. If the mouth is open while spraying, the spray strikes the posterior wall of the pharynx and flies back out of the mouth without reaching the posterior space at all. Even small children readily learn to "smoke a pipe" in this way. He gives in detail the history of five cases of diphtheria in children in which the iodin solution was sprayed into the throats every two hours and calomel given internally. All recovered and he believes that the reaction between the calomel and iodin formed locally a mercuric-iodid. Two new cases developed in the family and the same line of treatment was successful. Rheumatism is another infection now generally believed to enter by the tonsil, and the painful condition of the tonsil always gives warning of its presence. Here the mercury and iodin achieve brilliant results, and if applied early, suppuration of the tonsil, and all joint and heart complications rarely occur. When called to a case of acute articular rheumatism (even if gonorrhreal) it is his practice to apply an iodin plaster to the affected joint. A thin layer of absorbent cotton or lint is spread on the sticky side of a piece of Z. O. adhesive plaster about six by eight inches, leaving a margin uncovered about one and one-half inches wide all around. The cotton is moistened with equal parts of tincture of iodin, tincture of belladonna, and spirits of camphor. The plaster is warmed, applied and covered with flannel. If the pain is not controlled in twenty-four hours, he raises one edge of the plaster and pours in more of the solution, covering the leak with a fresh piece of plaster; not forgetting to push the mercury internally and also giving a little acetanilid and salol. Morphin is very seldom needed where this treatment is begun early. Even in sciatica these measures have given him better results than any other treatment. Subcutaneous infections, as boils, carbuncles, phlegmons, felons, etc., are treated with the happiest results. He here applies one part each of ichthyol and tincture of iodin with six parts of boroglycerid, applied on lint or absorbent cotton and covered with a bandage. The same treatment is effective in erysipelas and in mammary inflammations.

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**Iodipin:** The *Therapeutic Review* for July, quotes Schuster (Die Therapie der Gegenwart, 1904, p. 160) as to

the value of iodipin in rheumatoid arthritis. Among the diagnostic points of this disease, he points out that rheumatoid arthritis primarily attacks the smaller joints and is a symmetrical process. Later the disease may spread centrally involving the larger joints. In this disease the salicylates are of no avail. According to Schuster, however, the alkaline iodids have

in many cases proved of value when used in large doses up to 60 grains, but their utility has been much interfered with by the fact that few persons will stand such large doses without disturbance of the stomach, or the production of symptoms of iodism. He has had excellent results in this disease from iodipin, which, it will be remembered, is a preparation of sesame oil, containing 25% of iodin. This he injects in doses of 10 to 20 c. c. (two to five drams) in the neighborhood of the affected joint. Numbers of cases have been benefited, and he does not claim it as an infallible cure, but believes it deserves an earnest trial in various forms of joint disease, especially in those cases which do not yield to other methods of treatment.

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**Amyl Nitrite:** Francis Hare, in *Merck's Archives* for November (from *The Hospital*), advises the use of amyl nitrite in the treatment of hemoptysis. In three cases due to phthisis, pulmonitis and one due to mitral regurgitation, the use of the remedy was followed by an immediate cessation of the hemorrhage. The *modus operandi* is assumed to be a dilatation of the peripheral systemic arterioles, causing diminished resistance to the aortic outflow, and a consequent lowering of tension in the left auricle and a fall of blood-pressure in the pulmonary circulation. In short, the use of amyl nitrite in cases of hemoptysis rests on the same physiologic basis as the older practice of venesection in like circumstances, but with this advantage, that it involves no loss of blood. Treatment of hemoptysis by morphin is no doubt often successful, but it means retention of effused blood in greater or less quantity in the lung tissue with the risk of decomposition, septic-pneumonia, etc. On the other hand, dilatation of the systemic arterioles, as by the use of amyl nitrite checks the hemorrhage at the very point of its occurrence, and so prevents the escape of blood into the lung tissue.

**Picric Acid:** In the *Medical Council* for October, T. D. Patterson, summarizing the uses of picric acid, states that one of its first therapeutic uses was as a dressing for burns in which the denuded surface was too great for carbolic acid dressings to be safely applied. As it decidedly coagulates albumin, possesses astringent and hemostatic properties, and is also antiseptic, it soon became a popular dressing for burns and also for other conditions where there is an oozing and granulating surface. It is an excellent application both for cutaneous surfaces and mucous membranes, but is an irritant poison and should never be used internally, neither should it be used upon over sensitive mucous membranes at the conjunctiva and the urethral mucous membrane in the acute stage of gonorrhea, yet in chronic forms of posterior urethritis a one-half percent solution may be used as an injection. He especially calls attention to its uses as a local application upon the interior of the uterus, in which in the absence of fibroids and of polypi there is a predisposition to uterine hemorrhage, as in chronic metritis. He applies a one percent solution repeatedly over the entire endometrial surface, taking care that the canal is well dilated, and using no packing whatever. He believes the drug deserves some consideration in those instances in which a dressing having markedly both astringent and antiseptic properties is needed over ordinary mucous or cutaneous surfaces.

# The Academy of Medicine of Cleveland

1904

## FOREWORD

At the request of the Council of the Academy the Annual Address of the retiring President, Dr George W. Crile, together with the reports of other officers and committees for the year, presented at the annual meeting, December 16, 1904, were compiled and edited, and are here presented as a permanent record of the work of the year. As will be perceived on a perusal of the several reports the amount of work completed during the year was large, and some of it of great importance to the profession or to the public or to both. Investigation of a considerable number of important topics has been begun but must be turned over to the succeeding Council for completion.

The editors of these reports wish to mention but one fact which does not appear distinctly in any single report but is yet of decided importance. It is our earnest belief that all officers and members of the Academy should regard the work of Sections with the same solicitude that they regard that of the Academy itself. Historically the Academy is the union of two medical societies which held three meetings each month, and for those members who are interested only in the Academy with its one meeting a month, the change, from the standpoint of opportunity to present medical topics and discussions, is a retrogression rather than an advance. We trust that, so far as this attitude exists, it is an unconscious one and will disappear upon a realization of the close relation which should and really does exist between the Academy and its Sections. The present and preceding Councils have been deeply interested in the meetings and success of each of the Sections, and have done all that seemed to them possible to further their interests, and this attitude they commend heartily to their successors. With the Sections at present organized each member may surely find one, the character of whose work is in line with his own interest, and for that Section we bespeak his support. Let us now consider for a moment the opportunity presented by the Academy for the presentation of literary programs, considering the Sections in this place as being integral parts of the Academy, separated only for the purpose of a division of labor, and a classification of programs. The following is the record for the year:

Number of meetings held .....	33
Number of specimens presented .....	28
Number of cases presented .....	28
Number of papers read .....	75
Gross attendance .....	1628

## SECRETARY

During the year 1904 the Academy of Medicine of Cleveland has held ten meetings. At four of these meetings papers were presented by physicians from other cities, namely, Dr Frank W. Lynch, of Chicago University, Dr F. B. Mallory, of Harvard Medical School, Dr George E. Brewer and Dr Lewis Gregory Cole, of New York, and Dr Harvey W. Cushing, of Johns Hopkins Hospital. At eight meetings papers of high excellence were presented by physicians from among our own membership. The greatest

number present at any one meeting was 210, the least number, 55, the average attendance for all meetings being 107.

The following gives comparative figures on the membership and indicates the character of the changes which have occurred in the roster of the Academy during the year:

	1902	1903	1904
Active .....	311	343	402
Non-resident .....	98	97	71
Associate .....	5	5	5
<b>Total .....</b>	<b>409</b>	<b>445</b>	<b>478</b>
GAINS	Active.	Non-Resident.	Associate.
Elected and qualified .....	80	9	...
*Elected not qualified .....	18	1	...
LOSSES			
Resignations .....	5	...	...
Deaths .....	4	...	...
Transfers to non-resident .....	1	...	...
Suspensions .....	11	36	...

\*These are not members, they do not appear upon the roster of the Academy, but, by payment of the initiation fee, will soon become members in good standing.

Three of the five resignations were due to removal from the city, one to chronic illness, while for the fifth no reason was given. The suspensions were for non-payment of dues, according to the requirements of the by-laws. The roster has suffered most severely this year in the loss of non-resident members, and this is doubtless due to their more active participation in their local county societies.

The Council of the Academy, which transacted the business for the year 1904, consisted of 19 members, made up as follows: President, George W. Crile; Vicepresident, Wm. E. Bruner; Secretary, Edward Lauder; Treasurer, Oscar T. Thomas; two past Presidents, F. E. Bunts and H. G. Sherman; the Trustees, H. E. Handerson, W. H. Humiston, Robt. Pollock, H. C. Ballard, Hunter Robb and Wm. O. Osborn; the chairman of each standing committee, J. J. Thomas, W. H. Merriam, T. C. Martin and W. T. Howard, Jr.; and the Councillor from each Section, G. W. Moorehouse, J. J. R. Macleod and J. M. Ingersoll.

During the year the Council has held 13 meetings. The greatest number present at any one meeting was 17, the smallest 8, the average attendance for all meetings being 15.

Besides the four standing committees, namely, the Committee on Public Health, the Committee on Legislation, the Membership Committee and the Program Committee, which were always on the alert and caring for the work in hand, 31 special committees were appointed to inquire into and report on special matters. Of the 31 so appointed, 26 have reported and been discharged, while five have reported progress and are continued. Under the guidance of an able executive all business coming before the Council at its meetings was dealt with promptly, so that at no time was there any unfinished business to be considered at subsequent meetings.

The more important matters considered by the special committees are as follows:

I. A committee to interview the editors of the leading local newspapers to arrange for the protection of members of the Academy from objectionable publicity.

2. A committee to report on the sending out of programs. The Secretary's office now sends notice to all members the same week that the meeting is held, with the exception of the Ophthalmological and Oto-Laryngological Section. Notice for this Section is sent at the same time as the notice for the general meeting of the Academy.

3. A committee to compile a roster of physicians of Cuyahoga County. This was in compliance with the by-laws of the State Association.

4. A committee to make arrangements for the meeting of the State Medical Association, which met in this city in May. In this connection there were sub-committees, as follows: Finance Committee, Entertainment Committee, Committee on Exhibits and Clinics, and Committee on Accommodations. How well each performed its duty is a matter on which we all have full knowledge and in which we may take just and pardonable pride, as it certainly must have given to those who were present from all over the State some idea of the energy of our Academy.

5. A committee to consider the ambulance service of Cleveland. This committee reported progress and was continued. The matter has been brought to the attention of the proper city authorities with a view to determine the advisability and possibility of the adoption of some system of ambulance service in accordance with the suggestions of the special committee.

6. A committee to examine into and report upon the status of certain medical institutions of the city which are presumably unethical. The committee reported progress and was continued.

7. A committee to formulate a proper article setting forth the dangers of toy pistols, etc., this article to be published in the daily papers a few days before the fourth of July.

8. A committee to confer with a committee appointed by the Council of the Cleveland Medical Library Association relative to a future combined home for the Cleveland Medical Library and the Academy of Medicine.

9. A committee to consider recommendations relative to the city milk supply. The report of this committee embodied the recommendation of the appointing of a permanent Milk Commission. The Council acted accordingly and appointed four members from the Academy, requesting the homeopathic fraternity to appoint two and the Chamber of Commerce one. These two bodies have complied with the request.

10. A committee to investigate and report on the advisability of the abandonment of the present method of publishing the transactions of the State Association and the establishing of an official organ. This committee reported progress and was continued.

11. A committee to make arrangements for the meeting of the Fifth District Medical Association.

12. A committee to investigate and report on the disturbance at the Ohio Hospital for Epileptics at Gallipolis. The committee reported progress and was continued.

13. A committee of three was appointed, and the homeopathic fraternity requested to send a representative, to determine what action might be taken concerning the alleged abuse of the hospital clinics. This committee reported progress and was continued.

## TREASURER

Balance on hand Dec. 10, 1903.....	\$ 190.71
Collections to Dec. 10, 1904.....	1,394.13
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Total .....	\$1,584.84
Expenditures to Dec. 10, 1904 .....	1,147.94
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Balance .....	\$ 436.90
Received from Dec. 10 to Dec. 16, 1904.....	14.25
Bills payable .....	76.55
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Actual surplus, Dec. 16, 1904.....	\$ 374.60

A few facts gathered from the records of the Treasurer may be of interest to members of the Academy:

To the Cleveland Medical Library Association was paid \$309.00, and to the Ohio State Medical Association, \$331.00. Aside from these fixed charges the running expenses for the year were \$507.94. In 1903 the running expenses were \$584.05, the difference in favor of 1904 being \$76.11. In 1903 the expenses of the Treasurer's office were \$101.55, but in 1904 only \$29.00. This saving of \$72.55 is a net gain, the credit for which belongs not to your Treasurer but to you, the members of the Academy, who made possible by their prompt payment of dues the elimination of some collecting agency.

Another item of interest is that from the collection of dues and fees from new members during the year we received the sum of \$373.75. You will recall that our actual surplus is only \$374.60. You see then that the credit for this surplus (less 95 cents) belongs rightfully to the Membership Committee, whose results have never before been equalled and whose successors must enter the field handicapped by the loss of these 84 active and seven non-resident new members.

It is interesting to note that one-third of the members paid their dues (as called for by our by-laws) in January and before any statement had been sent out.

Among the active members there were 11 delinquents, of whom three have left the city and one is excused by age and infirmities. The remaining seven have failed to appreciate the benefits to be had from their association with the Academy.

No one of you who does not intimately know the work of your Council and its committees can appreciate the time and labor expended and the results achieved for the betterment of the individual member and particularly for the strengthening and upbuilding of our Academy.

From the vantage point of your Treasurer there is seen a sure awakening in all of you to a realization of the benefits to be had and an appreciation of the responsibilities which must necessarily be added with every increase of force and power to the Academy.

OSCAR T. THOMAS, M. D., *Treasurer.*

## AUDITING COMMITTEE

The Auditing Committee, consisting of Drs. M. D. Stepp, N. M. Jones and Eliot Alden, reported that they had carefully examined the books and vouchers of the Treasurer and found them absolutely correct.

## TRUSTEES

The Trustees reported in their charge, subject to future disposal by the Council of the Academy, a balance of about \$400, remaining after the payment of all expenses connected with the meeting of the Ohio State Medical Association in Cleveland, in May, 1904.

## MEMBERSHIP COMMITTEE

The Membership Committee held its first meeting early in the year. A vigorous campaign for new members was decided upon and to this end the following plan was adopted: A list containing the names of all the regular physicians in the city not at the time members of the Academy was prepared. Realizing that it would not be feasible to work actively upon so large a number, about 150 names were selected and apportioned equally to the different members of the committee. Everyone whose name appeared on the shorter list was seen personally by some member of the committee, and several were interviewed by two or more members. In several instances the services of members of the Academy, not on the committee, were called upon.

The result of the quiet but effective work of the committee follows: Number of applications received during 1904, 117; elected to active membership, 98; to non-resident membership, 10.

While every member of the committee shares worthily in the credit for the good work done, the enthusiasm of Dr C. E. Ford deserves especial mention. In addition to his efforts among the local profession, he visited a number of the smaller towns in the county, obtaining in all 41 applications, and arousing interest in a neglected field which may be of profit in the future.

J. J. THOMAS, M. D., *Chairman.*

## PROGRAM COMMITTEE

Number of meetings held during the year.....	10
Number of persons reading papers .....	27
Number of members of Academy .....	22
Others .....	6
Surgical papers read .....	6
Medical papers read .....	17
Obstetrical papers read .....	3
X-ray papers read .....	1
Number of cases presented .....	2
Number of cases reported .....	3
Number of specimens presented .....	3

The apparent excess of medical over surgical papers is due to the presentation of several short papers on the occasion of two special meetings, one upon "Scarlet Fever," the other upon a study of "The Water Supply of Cleveland." The small number of cases presented and reported is due to the fact that as a rule these come before the Clinical and Pathological Section.

W. H. MERRIAM, M. D., *Chairman.*

## LEGISLATIVE COMMITTEE

It is my agreeable duty to present the annual report of your Legislative Committee. The scope of your committee's work has been unusually wide during the year, and includes a great variety of measures. The scene of their work likewise has been unusually expanded, inasmuch as they have been compelled to contend for or against proposed legislation not only in the municipal council and State legislature, but also in the national congress.

You will recognize how these responsibilities have been increased when you recall that some few years ago the reorganization of the American Medical Association accomplished the federation of all the State medical associations, and these in their turn merged the county medical societies of each State into an effective union and made of the whole profession of the country a compact homogeneous body with direct lines of communication from periphery to center, so that information on a subject concerning either a part or the whole of the profession might be directly and at once transmitted to all the parts of the organization. This plan made the county body the unit of the organization. The head of the organization cannot commit itself in any important matter without the consent of the component county societies; nor in matters pertaining to legislation is it, except for the powers delegated to it by its units, of great consequence; but, given by these units an object for achievement, the power wielded is stupendous.

The agencies by which our interests in legislation are protected or promoted consist of the National Legislative Council of the American Medical Association, which is composed of one member from each State association, the Legislative Committee of the State Medical Association, and a like committee for each county society.

The Legislative Committee of this Academy consists of five members; from time to time, at the request of the committee, sub-committees have been appointed by the Council to assist this committee, or to undertake some especial piece of work. These committees undertake the execution of those projects which have been carefully considered and approved by the Council of the Academy.

This detail has been offered by way of preface that it may be made plain that it is the organization of the profession which makes possible the success of any effort in the direction of legislation.

The most notable illustration of our influence at Washington is that which resulted in the present plan for the construction of the Isthmian Canal under proper sanitary conditions. When President Roosevelt, in accordance with an act of Congress, had appointed six of the seven Canal Commissioners and had not placed on that Commission a single physician, the National Legislative Council of the American Medical Association made an effort to secure a representative, but arrived too late, the last had been chosen. Within a few days of this time all the State Medical Associations were in session and adopted resolutions urging upon the Congress of the United States the necessity of remedying this deficiency by enlarging the membership of the Canal Commission to nine, the additional two to be physicians experienced in the tropics. This failed. Then your representatives attempted to secure the appointment by the Canal Commission—under guidance—of a certain physician of proved ability to have charge of a

department of sanitation. Letters and telegrams by the thousand poured in upon Washington, addressed to the President, Senators and Representatives, by their constituents, your agents; and your organization won at the last ditch.

The Pure Drugs and Foods Bill we were unable to put through. Fearing defeat it was kept in committee. A lobbyist in the patent medicine interests declared to the committee in whose charge it was that they had \$5,000,000 with which to defeat it. This Bill will again be introduced to the Congress now in session, as will also a Bill providing for the national incorporation of the American Medical Association. At present the American Medical Association exists by a charter granted by the State of Illinois.

During the session of the last General Assembly of the State the following Bills of interest to the medical profession were presented:

A Bill by Senator Heinlein providing for the establishment of a State hospital for the care of the tuberculous and providing for the appropriation of funds for that purpose. Passed both Houses.

A Bill introduced by Representative Rawson, of Cuyahoga County, providing for the regulation and sale of ice by local Boards of Health. Passed the House but died in committee in the Senate.

A Bill by Senator Pollock providing for the registration of vital statistics by the State of Ohio. Failed to pass the Senate.

A Bill by Dr Crawford, of the House of Representatives, requiring the printed formula of patent medicines on each package. Failed to pass the House.

A Bill by Representative Rawson, of Cuyahoga County, providing for reciprocity in medical licensure. Passed the House but died in committee in the Senate.

A Bill by Representative Bronson, of Franklin County, providing for the exemption of the senior classes of medical students of 1904 from examination by the State Board of Medical Examination and Registration. Failed to pass the House.

A Bill by Representative Smith, of Hamilton County, providing for the reduction of the fees for examination by the State Board of Medical Examination from \$25.00 to \$5.00 and for the re-registration of all physicians in the State each year. Died in committee.

Of the seven Bills introduced, there were five whose passage your committee advocated. Of these five there were two, *viz.*, the Ice Bill and the Patent Medicine Bill which were defeated by reason of the interests opposed to them. The Vital Statistics Bill was defeated because of the expense its operation would entail upon the State.

Our amendment to the Medical Practice Act designed to establish between States reciprocity of licensure was fought for persistently throughout the whole session of both Houses; it was carried successfully through the lower House and to a committee of the Senate known to be friendly to it. Here it was tied up by interests, in no sense opposed to the measure, but for the purpose of bringing its advocates to terms on other bills; a common phenomenon observed in the Legislature.

The Bill to exempt the senior medical students from examination occasioned the most intense interest and allowed the best opportunity for the co-operation of our profession. The senior students in most of the colleges in this State formed an association which crystallized its purpose in this Bill, which would emasculate our law. They assessed their members a sum

of several thousand dollars, retained a lawyer skilled in manipulating legislatures, established agencies in every county to influence their representatives; in fact, they constructed an organization which now, that these fellows are licensed, might be of much use to our profession could it be used in furthering our higher purposes. Their Bill was introduced and steered into a committee friendly to them. This committee promised us a hearing, but one day we discovered this committee surreptitiously closeted with some 50 students. The Secretary of the State Association entered and reminded them of their promise to your committee. He was told to bring us in. The Secretary stated that this was an impossibility on a moment's notice. He was then told that a hearing would be granted that evening. Our Secretary then charged them with a breach of faith and reminded them that our profession polled a vote of about 10,000 and had an organization that would go into each member's county and create a sentiment which would effectually put a check to any further ambitions of any party to their present action, and he finally demanded an audience at a time convenient to us. Accordingly a week later a meeting was held at which you were represented. Prior to this hearing the committee stood seven to one in favor of the exemption measure. There were more than 100 students present. We had about 30 men there. The chairman employed every means to shut off our debate and to discredit our arguments. The committee adjourned without a vote, personal canvass however showed a tie. The committee stated that the Bill would not be reported to the House for several days. Notwithstanding this promise the Bill was reported upon the day following and its passage recommended. It was placed on the calendar for the succeeding day. Your committee were informed by telephone of this maneuver. We then made a canvass of the House and discovered that our opposition had 75 votes pledged in its favor. Your committee asked the President and Secretary of the State Association to join them in sending telegrams to each of our county committees requesting these to send telegrams to their Legislators and to get their friends to do likewise, urging the defeat of the measure. On the following morning the floors of the House were carpeted with the yellow slips which came from every quarter of the State. The final vote was 60 to 38 in your favor.

Representative Smith took his defeat hardly and in retaliation introduced a Bill requiring physicians previously licensed to take an examination annually on penalty of revocation of their license. Your committee succeeded in keeping this Bill from being reported to the House.

At the present time your committee are engaged in an effort to improve the ambulance service of Cleveland in accordance with suggestions found in the report of Dr Metzenbaum made to the Council of the Academy. On this measure your committee reports progress. Accounts of work kindred to that of this committee will be found in the report of the Committee on Public Health.

We beg to append the report of a sub-committee, of which Dr W. E. Lower was chairman:

The Special Committee on Legislation begs leave to report in part what it has already reported at a regular meeting, and to further report such progress as has been made since then. The purpose of the committee was to get such legislation through the City Council as would give Cleve-

land a sane Fourth-of-July. With this end in view an ordinance was prepared with the aid of the City Solicitor, and duly presented to the City Council.

The first action of that body was to refer the ordinance to a special committee. After considerable delay the committee gave us a hearing and agreed to refer the ordinance, as then prepared, back to the Council for passage.

As the ordinance then stood it prevented the sale and manufacture of any toy pistol, blank cartridge or cannon cracker within the city limits.

However, before the next Council meeting, and during the committee's absence from the city, it developed that one of the councilmen was interested in fire-works and had made a considerable investment in anticipation of this year's glorification. Through a deal, of which we were informed, but do not care here to repeat, the ordinance was changed so as to leave out the cannon cracker. In this form it was passed by the City Council and became legal. Through various delays this did not take place until June, after the present year's Fourth-of-July supplies had been laid in.

That there were a number of flagrant transgressions of the ordinance we are well aware. In one case we secured direct evidence against a dealer through the voluntary efforts of a member of the Academy who procured a box of blank cartridges on the Fourth-of-July. With this evidence your committee took the matter before the police prosecutor, but the prosecutor, while expressing a willingness to act, informed us that the judge would dismiss the case on the ground that a sufficient warning had not been given of the passage of the ordinance, this having been the action taken in all cases, a number of arrests having been made by policemen.

In spite of the inadequacy of the ordinance there was a most striking reduction in the death rate from tetanus this year. In July of 1903, fourteen deaths from tetanus were reported to the Health Officer. In July, 1904, five deaths from tetanus were reported, only two of which could be traced directly to injuries sustained on the Fourth. The number of accidents of all sorts, we have every reason to believe, were greatly reduced, and the most common ones were from the use of the cannon cracker and the torpedo cane, which last has recently secured an unsavory prominence in Fourth-of-July celebrations.

In order not to be circumvented in the same way next year, the committee had a conference with the City Solicitor relative to a new ordinance to prohibit the cannon cracker and the torpedo cane as well as other high explosives. The solicitor advised that no efforts should be made to procure such legislation with this Council, but to wait until after January 1, when the newly elected members enter the Council. I am sure if this suggestion is followed an ordinance can be passed early in the year prohibiting all dangerous, tetanus-producing devices, which have been in such common use on the Fourth-of-July.

The newspapers of the city have been very helpful in bringing the importance of this ordinance before the people, and the City Solicitor has been most obliging in helping to frame the ordinance.

THOS. CHAS. MARTIN, M. D., *Chairman.*

## COMMITTEE ON PUBLIC HEALTH

The first question your Committee on Public Health was called upon to consider was the widespread epidemic of typhoid fever occurring in our city during the last winter and spring. As we are all aware this was due to pollution of the water-supply. At the instance of the President of the Academy of Medicine, Dr Crile, the committee arranged for the presentation, at a regular meeting of the Academy, of a series of papers dealing with the typhoid fever situation and the needs and means for its control. These papers embraced the following topics: "The History of Typhoid Fever in Cleveland," by Dr H. E. Handerson; "The Water-Supply of Cleveland, Past, Present and Future," by Dr W. T. Howard, Jr.; "The Sewerage System of Cleveland," by Mr Carter, the City Engineer; "The Delayed Widal Reaction in the Present Epidemic," by Dr Louis W. Ladd. These papers were published in abstract in the daily press and in full in the **CLEVELAND MEDICAL JOURNAL**.

At the same meeting of the Academy the committee presented a series of resolutions pointing out the dangers of the present water-supply and calling for the appointment of a special commission of investigation to report upon the best means for its betterment. These resolutions were prepared after a consultation, called by Dr Crile, President of the Academy, between your committee, the Health Officer and several members of the Board of Health. Shortly after, and perhaps influenced in some measure by this action, the water-works department employed an expert to study the water-supply. The Chamber of Commerce has recently appointed a strong committee to investigate this question.

The committee co-operated with a special committee, consisting of Dr Wm. E. Lower, to secure legislation prohibiting the use of dangerous explosives during Fourth-of-July celebrations.

In September, the committee, through Dr Handerson, inquired into the enforcement of vaccination regulations in the public schools. After painstaking investigation, Dr Handerson reported that the efficiency with which these regulations are enforced varies greatly, being dependent in large measure upon the interest and care shown by the school superintendents. In general, the higher the grade of the school, the more careless is the superintendent in this regard. It was only in the lower grade schools, he found, that the vaccination certificates were passed along from grade to grade. In some schools a yearly report on this subject was rendered the superintendent of instruction.

After a study of the results of the bacteriologic analysis of the Cleveland milk-supply by the City Bacteriological Laboratory during the past summer, the committee recommended and the Council of the Academy passed resolutions calling upon the Board of Health (1) to prohibit the sale of milk registering a temperature of over 50° F. (2) To prohibit, for the year 1905, the sale of milk having more than 500,000 bacteria per cc. (3) To prohibit, after January 1, 1906, the sale of milk containing more than 250,000 bacteria per cc.

Your committee further recommended that the Board of Health should appoint one district physician and school inspector for each ward.

At the request of the Council, the committee has investigated the Pasteur Institute, on Hough Avenue.

The committee is at present investigating the needs for meat inspection in Cleveland.

The committee holds regular meetings on the first Wednesday of each month, and additional meetings as occasion may require. The Secretary keeps full records of all meetings and has preserved in appropriate files all the correspondence of the committee as well as all the data collected during its investigations. To the regular meetings of the committee the President pro tem. of the Board of Health and the Health Officer have a standing invitation. These officials have taken part in the discussions of a number of questions before the committee.

The committee hopes that through this connection with the health authorities the influence of the Academy of Medicine upon the solution of public health problems may become broader and deeper, and that through the medium of the committee it may occupy its proper place as general adviser and critic on such matters in this community.

In general, it may be said that our city appears to be on the eve of very considerable reforms and improvements in the solution of public health problems.

W. T. HOWARD, JR., M. D., *Chairman.*

#### CLINICAL AND PATHOLOGICAL SECTION

At the earnest request of this Section, in which request the other Sections of the Academy concurred, the method of sending out monthly announcements of the Academy, with which were included the announcements and programs of all Sections, was changed during the year to individual announcements appearing on the week of the meeting. In the opinion of the officers of the Section for which I have the honor to report, the change has been of distinct advantage to us. We think that, under the new method, it is not only more easy to secure papers, but also makes it possible to secure a larger number of cases for presentation, and, on account of a better reminder of the meetings, to draw a larger attendance. In substantiation of these contentions the report will be presented by quarters.

By provision of the constitution, no meetings are held in July or August, and, since it was not considered advisable to attempt a meeting in September before the first fall meeting of the Academy had been held, we are concerned merely with the first, second and fourth quarters.

	First	Second	Fourth	1904
Meetings held .....	3	3	3	9
Specimens presented .....	5	6	6	17
Cases presented .....	0	4	7	11
Papers read .....	10	10	8	28
Average attendance .....	23	28	37	29

G. W. MOOREHOUSE, *Councilor.*

#### SECTION OF EXPERIMENTAL MEDICINE

From December 11, 1903, to November 11, 1904, seven meetings of the Section were held, at which eleven papers were read. Two of these were by non-members of the Section, by Prof. Miller, of Case School, on Radium and Radioactive Substances, and by Dr Prentiss, of Adelbert College, on the Structure of Nerve Cells. Other papers were by members of the Sec-

tion and may be subdivided as follows: One clinical, two compilations of recent work in experimental medicine, and seven on original research.

Forty-two members have applied for membership, of whom 18 have paid the Section subscription. The average attendance at the meetings has been 30.

The Section has had an income of \$4.70 and an expenditure of \$2.45, leaving a balance of \$2.25.

J. J. R. MACLEOD, M. D., *Councilor.*

### OPHTHALMOLOGIC AND OTO-LARYNGOLOGIC SECTION

During the past year the Section has held seven meetings at which seven specimens and eleven cases have been exhibited, numerous cases have been informally reported and nine papers have been read. The average attendance has been 12 members.

J. M. INGERSOLL, M. D., *Councilor.*

### ANNUAL ADDRESS OF THE RETIRING PRESIDENT

The annual reports of the officers and committees have told you of a prosperous year, a year of active work. These reports remind us of the power and importance of the Academy.

This administration has followed the general plan so well executed by our predecessors, and like them we have found that the constitution and by-laws, adopted at the organization of the Academy two years ago, provides an efficient working basis for the transaction of the business of the Academy, leaving the regular meetings and the Sections unhampered in the prosecution of their scientific work. The splendid programs, large attendance and general interest displayed in the Sections as well as in the Academy, bespeak this in unmistakable terms. The importance of membership in the Academy is not to be underestimated, for in the present status of medical organization the reputation of a practicing physician without membership in the county society has a vulnerable point, which may in times of trouble or when positions are sought, lead to serious embarrassment.

To the Secretary, who has so well mastered the innumerable details and performed the arduous duties of his office, special commendation is due.

In my absence, during which the responsibility incident to the meeting of the State Society was added, the Vice-president, Dr Bruner, served as President, for which I wish to return my cordial thanks.

The unusual spectacle of an overflowing treasury and a paid-up membership speak in eloquent terms of the efficiency of our Treasurer, Dr O. T. Thomas.

The carefully balanced programs, balanced as to subject matter and as to representation in the profession, the special programs, such as that on public health and sanitation during the typhoid epidemic, and the able talent from abroad, speak for the work of the Program Committee, with Dr W. H. Merriam as chairman, and Drs N. M. Jones and F. C. Herrick as associates.

Perhaps the most fundamental work in the Academy is that of increasing the membership. The committee, with Dr J. J. Thomas as chairman,

and Drs Ford, Hanson, Yarian, Childs and Houck as associates, by dint of persevering, systematic work, requiring the expenditure of very considerable time, added 108 members to the Academy's list, an unexcelled record in the history of medical societies in this city.

The Legislative Committee, consisting of Dr T. C. Martin as chairman, with Drs Skeel, Sherman, Tuckerman and Lawler as associates, and a sub-committee consisting of Drs Bunts and Moorehouse, rendered a notable service to the entire State by taking the lead in shaping the medical legislation.

The Public Health Committee, with Dr W. T. Howard, Jr., as chairman, and Drs Henderson, Schnee, Bunts and Perkins as associates, have led the municipal authorities and the public in the principal questions of public health. Never before has the Academy, through its Public Health Committee, exerted so much influence toward the betterment of the health of this community. The disinterestedness of motives and the soundness of conclusions have been widely accepted. The Academy has, through this committee, been ever ready to give consideration and advice to the Health Department, and it is to be hoped that the present feeling of mutual confidence will continue. When the Academy has been obliged to differ from the Health Department such differences have been frankly expressed. We trust that such of the Public Health Committee's work that is of public importance will continue to be given to the public.

The profession in some of the foremost cities have established themselves in suitable buildings of their own; notably, New York, Brooklyn, Philadelphia, and Boston, and in other cities plans for the future have been developed and funds are accumulating for such purposes. Is the time not ripe for considering the future for ourselves? During the past year the Council of the Academy gave special consideration to this subject. That the question may be brought to your attention more in detail, I would ask your consideration of some of the information developed and opinions formed without committing all the members on all of the points. Since the units of the American Medical Association are the county societies, the fundamental and predominant medical body of Cleveland and Cuyahoga County is, and will be, the Academy of Medicine. A conservative estimate of the population of Cuyahoga County in ten or twelve years is 1,000,000. If plans for the future are well laid the Academy should have a permanent place of meeting within that time. The Academy may establish its home in conjunction with the Library, or it may ultimately do so alone. Since the responsibilities of both organizations rest largely upon the same individuals these interests should be brought into the closest and most economical relationship.

Investigation has shown that to provide fire protection and secure light for a building suitable for both the Library and the Academy, a frontage of not less than 100 feet is necessary; that on account of the noise of street traffic it should not be located immediately on a thoroughfare; that in order to secure the deepest interest the entire profession should contribute to such a building, everyone giving his mite; that the profession unaided are not at present able to undertake such an enterprise; that a large sum must be secured from outside sources; that the present organizations should not be taxed as such; that a building association should be formed, composed of members of the Library and of the Academy, for

the purpose of securing the land, building and furnishing a building suitable for both organizations, and, on completion, turn the same over to them conjointly; that both organizations continue independently as now constituted; that such a building provide also for quarters for the CLEVELAND MEDICAL JOURNAL, and a nurses' bureau; that the expenses of maintaining such a building be borne equitably by the two organizations; that the Library, as soon as its financial circumstances will warrant, shall be thrown open to the entire profession; that should such a plan prove impossible of accomplishment, then other plans falling below the ideal may be considered.

This plan may be at once characterized as visionary—visionary only because of the improbability of securing the necessary funds. But why not try? The Library has been remarkably successful, successful largely as the result of the labors and sacrifices of a group of men who have been devoted to it a number of years; notably, its officers of the past and present, together with the past and present substantial assistance of the medical societies. It has acquired valuable property, some endowment, and has accumulated over 13,000 volumes.

The Academy has had a rapid and substantial growth, ranking among the largest and most influential medical bodies of the country, has accumulated a surplus in its treasury, and this is but the beginning of its career.

In the consideration of this question we should take as detached a view as possible of the situation. These organizations do not belong to any group of men, but should belong to the entire profession, not only to the entire profession of today but to the profession of the future, who shall occupy our places when our day and generation shall have past.

I hope I may be pardoned such a free presentation of views held by many of my colleagues. No one understands and appreciates more than myself my own disqualifications for speaking upon so important a matter, and no one understands and appreciates more than myself my entire disqualification for assisting materially in working out the consummation of such plans for the larger development of our professional interests.

In taking my official leave of the Academy, I wish to express to every member my appreciation of their courtesies, to thank the members of the various special and standing committees, to acknowledge my great indebtedness to every member of the Council for their deep interest, for the cherished memories of our many pleasant associations in the work of the past year, and finally to assure the members of the Academy that there is no honor I esteem so highly as that of having been President of the Academy of Medicine of Cleveland.

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## Book Reviews

Dunham's Normal Histology. A Text-book on Normal Histology for the Use of Students and Practitioners of Medicine. By Edward K. Dunham, Ph. B., M. D., Professor of General Pathology, Bacteriology and Hygiene in the University and Bellevue Hospital Medical College, New York. New (3rd) edition, revised and enlarged. In one octavo volume of 334 pages, with 260 illustrations. Cloth, \$2.75, net. Lea Brothers & Co., Philadelphia and New York, 1904.

This work is intended especially for the use of medical students, and it is eminently suitable for this purpose. The cell itself is first considered and then, in succession, the simple and more complex tissues are described

in such a manner that the student may readily acquire a satisfactory knowledge of the subject. In conclusion the principal methods of histologic technic, with a few explanatory notes on the use of the microscope, are detailed. It is a question whether the last two parts might not, with advantage, preface the remaining chapters. There are a large number of excellent illustrations most of which are duly credited to standard works.

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Diseases of the Nose, Throat and Ear and their Accessory Cavities. By Seth Scott Bishop, M. D., D. C. L., LL. D., Author of "The Ear and Its Diseases"; Honorary President of the Faculty and Professor of Diseases of the Nose, Throat and Ear in the Illinois Medical College; Professor in the Chicago Post-graduate Medical School and Hospital; Surgeon to the Post-graduate Hospital and to the Illinois Hospital; Consulting Surgeon to the Mary Thompson Hospital, to the Illinois Masonic Orphans' Home, and to the Silver Cross Hospital of Joliet, etc. Third edition, thoroughly revised, rearranged and enlarged. Illustrated with 94 colored lithographs and 230 additional illustrations. 564 pages, royal octavo. Price, extra cloth, \$4.00, net; Sheep or Half-Russia, \$5.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

The two former editions of this book have always been popular, and this third edition is much superior to its predecessors. The recent advances, made in the methods of treatment of diseases of the nose, throat and ear, have been incorporated in the text, and the author apparently takes pleasure in recognizing and giving credit to the best work of American writers. The book is well illustrated, and the pictures of numerous anatomic specimens partially takes the place of the chapters devoted to anatomy, which are usually found in a book of this kind. A short discussion of the anatomy of the nose, throat and ear would add to the value of the book. The chapters on "A General Consideration of Diseases of the Nose, Throat and Ear" and "Life Insurances Affected by Diseases of the Nose, Throat and Ear" are quite unique and well written.

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Davis' Obstetrics. New (2d) edition. A Treatise on Obstetrics for Students and Practitioners. By Edward P. Davis, A. M., M. D., Professor of Obstetrics in Jefferson Medical College; Professor of Obstetrics and Pediatrics in the Philadelphia Polyclinic, etc. Thoroughly revised and much enlarged. Octavo, 800 pages, with 274 engravings and 39 full-page plates in colors and monochrome. Cloth, \$5.00, net; leather, \$6.00, net. Lea Brothers & Co.

This second edition has been enlarged and brought up to date. Recent investigations in the field of obstetrics have been duly noticed and the references to the original articles are given. The whole subject has been very fully considered, so that it is strange that hydatidiform mole seems to have been overlooked. The concluding chapter discusses the medico-legal aspects of the subject more especially with regard to criminal abortion; too much attention cannot be directed to this matter when one considers the tremendous maternal mortality and the amount of suffering resulting from the practice. The illustrations are numerous and well executed; some are original and the balance are selected from other books on account of their fitness. The whole appearance of the work is very attractive and it will doubtless prove very successful as in the past.

**Pathological Technique.** A Practical Manual for Workers in Pathological Histology and Bacteriology, including directions for the performance of autopsies and for clinical diagnosis by Laboratory methods. By F. B. Mallory, M. D., Associate Professor of Pathology, and J. H. Wright, M. D., Instructor in Pathology, Harvard University Medical School. Third edition, revised and enlarged. Octavo, 469 pages, with 140 illustrations. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Cloth, \$3.00 net.

Since the first appearance of this work it has proved invaluable to workers in pathologic laboratories. It is convenient in size and contains most complete and approved methods of pathologic and bacteriologic technic. The present edition shows improvement over the former ones in the additions to the text and the new illustrations. The work is already so well known that it hardly needs the recommendation which is heartily given it.

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**In the Year 1800.** By Samuel Walter Kelly, M. D. Vol. 3. of the Doctors' Recreation Series. Charles Wells Moulton, Editor. The Saalfield Publishing Co., Chicago, Akron, and New York. 420 pages. Four illustrations.

The author has given us in this book a most charming story. It purports to be extracts from the diary of a young physician of the beginning of the last century, and gives a graphic idea of the status of medicine at the time. The changing scenes in the book give glimpses of country practice and of university life at Cambridge and Philadelphia.

The author's style is graceful and easy and the interest in the story is well sustained throughout. Our pleasure in reading the book was augmented by the fact that the author is a Cleveland physician.

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### Cleveland Medical Library Association—New Books

Purchased—Janeway, The Clinical Study of Blood-Pressure, 1904; Beck, Röntgen Ray Diagnosis and Therapy, 1904; Gould, Dictionary of Medical Terms, 1905; Bergmann & Bull, System of Practical Surgery, Vols. 1-5, 1904; Progressive Medicine, Dec., 1904; Hall, Adolescence. Its Psychology, etc., 1904, 2 Vols.

Donated—By The Bureau of Ethnology, Washington, D. C., Bulletins of American Ethnology, Nos. 25, 26, 27; By U. S. Surg. Gen. M. H. Service, Weekly Public Health Reports, 1903, 2 Vols., Annual Report of the Surgeon-General for year 1904; Dr. Pennell, The Buckeye Doctor, 1904; H. E. Henderson, M. D., Triumphal Chariot of Antimony, by B. Valentinus; X. C. Scott, M. D., 71 numbers von Graefe's Arch. f. Ophthalmologie and Arch. f. Ohrenheilkunde, 50 pamphlets; S. S. Cohen, M. D., Sec., Trans. Assoc. Am. Physicians, 1904; F. C. Heath, M. D., Sec., Trans. Ind. State Medical Association, 1904; editors of THE CLEVELAND MEDICAL JOURNAL, 220 numbers various current journals; C. A. Hamann, M. D., Journal of Medical Research, 1904, Index Medicus for 1904; Librarian of U. S. Surg. Gen., Washington, D. C., 813 various volumes, 27 of these dating from 15th to 17th century.

## Medical News

H. H. Durfy, of Painesville, has located in Newark.

J. P. Esch, of Huron, will spend the winter in Daytona, Fla.

E. C. Logsdon, of Zanesville, is again able to attend to his duties.

R. B. Hubbard, of Sandusky, is hunting near Hot Springs, Virginia.

Youngstown physicians are threatened with arrest if they do not report births.

The trustees of the Dayton Hospital are in a bad mix up with Circuit Judge Berry.

Boris Bogen was reelected superintendent of the United Jewish Charities of Cincinnati.

T. A. Reamy, of Jones Station, who has been critically ill for some time past, is slowly improving.

C. V. Garver's satchel was stolen from his buggy at Lorain. The police recovered his property.

E. B. Rhodes and wife, of Port Clinton, have left for Florida, where they will make their future home.

G. D. Brinkman, of Springfield, has been ill for the last eight weeks, but is again able to take up his work.

Charles E. Lane, of Dayton, was elected as a member of the Board of Education on the Republican ticket.

Cleveland's health report shows a very marked decrease in the death-rate and in all contagious diseases of late.

The sleeping tents for tuberculosis patients at the Columbus State Hospital have been pronounced a great success.

R. E. Swigart and wife have left their former home in Tiffin for their new home at Bocas del Toro, Colombia.

Cleveland authorities have been making it very unpleasant for those druggists who sell cocaine without a prescription.

In heeding the advice of the Cleveland Academy of Medicine the health board will make many important changes in the near future.

In a suit for alleged malpractice for \$20,000 against A. F. House, of Cleveland, the defendant was acquitted and the cost placed upon the plaintiff.

The Lake County Medical Society met at Painesville in November. Dr W. H. Humiston, of Cleveland, delivered an address on "Diseases Peculiar to Women."

The Ohio State Board of Health has invited health officers of all Ohio towns, not having local laboratories, to make use of the State laboratories for the diagnosis of tuberculosis, diphtheria, and typhoid.

The Pan-American Medical Congress is to be held at Panama, January 2 to 6. Round trip rates from New Orleans \$50.00. For any further information apply to R. Matas, 2255 St. Charles Avenue, New Orleans.

The Clark County Medical Society held its November meeting at Springfield. Henry Baldwin, Jr., of Springfield, read a paper on "Valvular Diseases of the Heart." Dr John H. Rodgers, of Springfield, opened the discussion.

One of the finest programs was submitted for the seventh annual meeting of the Southern Surgical and Gynecological Association that ever came to our notice. All parts of the United States were represented. The meeting was held December 13, 14 and 15, at the Hotel Hillman, Birmingham, Alabama.

The Delaware County Medical Society held its annual meeting December 2. This was one of the best meetings of the Society since its reorganization. J. B. Woodworth reported a case, with clinic, of paralysis of the leg from a gun shot wound of the spine. F. L. Gage read a paper on "Prophylaxis in Scarlet Fever." The President, W. B. Hedges, delivered the annual address. Geo. F. Foder, of Olive Green, was elected to membership. The following officers were elected: E. M. Hull, President; C. W. Chidester, Vicepresident; J. B. Woodworth, Secretary; Isabell Rogers, Treasurer; Helen M. K. Smith, Councilor.

The first annual meeting of the Second Councilor District of the Ohio State Medical Association met at the Hotel Beckel, Dayton, Ohio, November 17, 1904. Dr D. R. Silver, of Sidney, was elected President; Dr F. P. Anzinger, of Springfield, Secretary and Treasurer. A committee was appointed to arrange for permanent organization and to select the place of next meeting. Dr J. S. Beck, of Dayton, presented a set of resolutions and moved their adoption; carried. Dr R. H. Grube, of Xenia, read a paper on "Neuresthenia." Discussion was opened by Dr F. C. Gray, of Dayton, followed by Drs A. Boone, B. F. Beebe, B. R. McClellan, D. G. Reilly, and H. F. Lorimer. Dr C. A. L. Reed gave an address on "National Medical Legislation." After adjournment, dinner took place. Dr W. J. Conklin served as Toastmaster. "After-dinner talks" were given by Drs J. E. Sylvester, F. D. Bain, H. Bonner, B. F. Beebe, and C. A. L. Reed. The component societies were well represented, and in all the first meeting of the Second Councilor District was a distinct success.

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### Deaths

John Bunn, of Batavia, age 63 years, died recently.

William K. Foltz, an old and well known physician of Akron, died recently.

Charles H. Potter, formerly of Cleveland, died recently in Baltimore. Dr Potter began the study of medicine late in life, yet he achieved much renown in microphotography.

# The Cleveland Medical Journal

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No 2

## The Medical Inspection of Public Schools

BY WM. S. CHASE, A. M., M. D., AKRON, OHIO

The question of "Medical Inspection of Public Schools" is one which has not received, in this country at least, that serious attention from the profession at large to which it is eminently entitled. In my judgment, the most important advances in medical science during the next 50 years will be along the lines of preventive medicine. Much has been done in that great field since the work of Pasteur and Koch placed on a scientific basis the bacterial causation of many diseases, but scores of problems remain unsolved, and in their solution I venture the hope and the prediction that American physicians will not be overshadowed by their scientific confrères of France and Germany. With each stride toward a higher plane and with every sturdy effort to make medicine more of an exact science, the progressive physician is bound to become less and less a purveyor of pills and more and more of a medical advisor.

There is not a corporation of any note in the country which does not retain one or more representatives of the law to keep it out of trouble, as well as to look after its interests when trouble begins, but the families are few, indeed, that look for advice or counsel from the physician until trouble is well under way and then, in many instances, the physician is called several generations too late. I have no sympathy with that tendency of modern thought to belittle the province of the family physician, insisting that his days of usefulness are disappearing, and that in a few more decades everything medical will be in the hands of specialists. I cannot believe that day will ever come. There is so much along the line of intelligent work in the problems of preventive medicine alone for the broad-minded, conscientious, up-to-date family doctor to do, that he cannot cease to exist. His emoluments will doubtless always be small when compared

to some of the more spectacular features of medicine, but his capacity for doing good work is well nigh limitless.

In this paper I shall attempt to support the proposition that by a well-regulated medical inspection of public schools we are advancing one phase of preventive medicine, and that only good can result therefrom. The public school system of our country is founded upon the well-grounded doctrine that the education there furnished will make of the boys and girls enjoying its advantages better citizens, better men and women. This apprenticeship, set down by the compulsory Education Laws of the State, as a prerequisite to full-fledged citizenship, presupposes on the part of those who enter thereon a physical and mental organization capable of standing the exactions imposed. It also presupposes that the child, having observed these requirements, shall emerge from this educational guardianship mentally and physically fit for the duties of civil life. Having assumed the duty of moulding the lives of future citizens, it is certainly self-evident that the State is morally bound to throw about its children of school age all the safeguards that prudence and caution may suggest, to the end that their physical and mental beings may not only *not* suffer from the duties imposed, but rather be benefited thereby.

W. L. MacKenzie, M. D., Medical Inspector of the local Government Board for Scotland, puts the matter well when he says: "It cannot be right to compel children to attend school, and wrong to make it possible for them to learn. It cannot be right to force their brains and wrong to correct their bodies. It cannot at one and the same time be right to compel the education of children and to perpetuate conditions of disease. It cannot be right to attempt the education of eye and ear when these are already known to be defective. It is absurd even from the educational standpoint, which is the primary concern of the State, to work these defective organs, chief feeders of the brain, as if their defects were indifferent. If a child is backward from defective vision, the remedy is to rectify the defect. If he falls behind because his ear-drum is perforated, he should at least be examined that his progress should not grow slower. If the brain is inactive from defective circulation, it is at least worth ascertaining whether the cause be want of food or congenital heart disease, or bad home conditions, or the supervention of some acute disease or of unhealthful conditions that will end in acute disease." It is unnecessary to call the attention of a body of medical men to the fact that if competent medical watchful-

ness is of value at any time, it is doubly and trebly so at the impressionable school age when the physical organism is so susceptible to all influences which may go far toward making or breaking a life of usefulness. Neither is it necessary for me to argue the point that if health inspection of any kind is to be of real value, it should not be entrusted to the teacher, however observant he or she may be, but to a competent medical man.

The general subject of medical inspection of schools naturally groups itself under three heads:—

First, and possibly the point on which most stress is generally laid, the detection and isolation of communicable diseases.

Second, the enforcement of sanitary surroundings.

Third, the detection and direction of the "physically unfit."

Boston stands first in the list of American cities to institute a medical inspection of schools. The first appropriation for that purpose was made in 1892, but interest and funds were at a low ebb the following year, and it was not until a severe epidemic of diphtheria swept over the city in 1894, costing several hundred lives, that sufficient provision was made to make the system efficiently operative. Years before some work had been done along these lines in a number of European countries, while Japan and even the Argentine Republic were ahead of enlightened America. It was in 1833 that France first passed a medical inspection law. The service was reorganized in Paris in 1878 and was placed upon its present footing in 1884. In Paris each medical inspector has under his general supervision 15 or 20 school-rooms. He visits each school-room at least once in two weeks and oftener if necessary. His salary is 800 francs per year. In Germany there is no uniform plan, but the usual custom is for the inspector to visit the schools in his district at least once a fortnight. Contagious diseases and visual and auditory defects are sought, and each pupil is measured and weighed periodically. These records are all kept on file.

Switzerland, so careful in every way to conserve the physical well-being of its citizens, has a system of medical examination of children and inspection of school buildings, instituted by the cabinet. The medical examination of children is prescribed on their first arrival at school. A child mentally deficient may be referred to a special class or a special institution. A child of insufficient development may be sent to Kindergarten, or the day of his admission postponed one year. The authorities have power to re-examine schools at any time. The Central School Board of Zürich has instituted re-examination as regards sight

and hearing for a number of years. To this has been recently added an inspection of teeth at the age of 12. The aim is to insure proper attention to eye-sight and hearing at the age of six; to eye-sight at the age of 12, when the eye begins to grow fast; to the heart at the same age for the same reason; and to the teeth at 12, since at this age decay makes rapid progress. Strict watchfulness is, of course, maintained for infectious diseases.

To illustrate the methods followed in Boston, the pioneer of American cities in this work, I quote in substance from a paper by Edward M. Green, M. D., Medical Inspector of Schools. Inspectors are generally selected from the younger men in general practice as they have the most time to devote to the work. The work has nothing to do with therapeutic systems, but requires simply the ability to make accurate diagnoses. The number of pupils in Boston schools is about 100,000. There were, when this report was made, 250 school buildings and 50 inspectors. This gives each inspector the supervision of about 2,000 children. The pay is only \$200 a year. Children, if found ill, are not allowed to consult the inspectors professionally, but are directed to their family physicians, or, if poor, are referred to a proper hospital. An association of the inspectors has been formed and regular meetings are held to discuss questions pertaining to their work. The inspector sees only those children to whom his attention is called by a printed slip on which the teacher has noted the symptoms she has observed, or the complaints which the child has made. On each child's slip he records his diagnosis and advice. Questions of drainage, plumbing, heating and ventilation are not considered by the Boston inspectors, but are referred to special experts of the Board of Health.

The children who come under inspection are divided into two classes,—first, the subjects of contagious disease, where exclusion is demanded; second, those suffering from non-contagious, though perhaps severe disabling diseases, or those who are mentally or physically below the normal standard. The inspector is always provided with culture outfits, supplied by the Board of Health, and takes cultures from all cases of acute pharyngitis and tonsillitis which he sees. After the culture is taken, the child is excluded until a report can be made on it the next day. If a case of contagious disease is discovered, the child's books are wrapped up in a bundle and sent to the Board of Health for disinfection or destruction, and the desk and seat are washed with a strong solution of corrosive sublimate or formaldehyd. If more than one contagious disease is found in

a room, every child is sometimes examined by the inspector for several days in succession. He uses a narrow piece of pine wood as a tongue depressor in each case, and after use it is burned at once.

Much has been done in Boston in the matter of giving advice to individual pupils on the subject of proper clothing, food, exercise, and cleanliness. Inspectors are sometimes invited to address teachers of their schools and parents of the children on such subjects. In the early days of medical inspection in Boston, a striking lesson in personal cleanliness was taught, when a systematic inspection of the public school children was made for *pediculi capitisi*. One-half of all the children of school age were found to be affected to a greater or less degree. Shower baths have been put into the basements of some of the new buildings and children are now allowed, and sometimes requested, to make a systematic use of them.

The result of a year's inspection of the Boston schools is shown in a report by Dr S. H. Durgin, Chairman of the Board of Health:—

#### SUMMARY:

Specific infectious diseases .....	505
Oral and respiratory diseases .....	2,609
Diseases of the ear .....	87
Diseases of the eye .....	431
Diseases of the skin .....	3,421
Miscellaneous diseases .....	3,568
Found free from disease .....	4,952
	15,573
Number of pupils examined in the schools.....	15,573
Number recommended to be sent home .....	3,055
Number consultations with teachers (about pupils returning to schools, etc.) .....	3,440

#### I. SPECIFIC INFECTIOUS DISEASES

Diphtheria .....	23	Erysipelas .....	2
Scarlet Fever .....	23	Syphilis .....	3
Measles .....	121	Tuberculosis .....	2
Whooping-cough .....	62	Malaria .....	4
Mumps .....	107		
Chicken-pox .....	108		505
Influenza .....	50		

I wish to emphasize the point that the children suffering from the diseases enumerated were in regular attendance at the time.

Medical inspection of New York schools was begun in 1894. The system was extended to Brooklyn in 1898. In 1904 parochial schools and free kindergartens were added to the list. Medical inspectors are under civil service rules, and examina-

tions embrace general medicine, physiology and hygiene, with particular stress laid upon the differential diagnosis of the infectious and skin diseases of childhood. Each inspector has five or six schools under his charge. He visits all of these once every day, seeing, in a private room, all pupils referred to him by the teachers, and once weekly makes a complete inspection of every pupil with a special reference to affections of the eye, ear, throat, head and skin. Cases of diphtheria, scarlet fever, chicken-pox and measles are excluded, and on report by the medical inspector all children supposedly suffering from these diseases are visited by a diagnostician of the Board of Health. In the lower part of New York a corps of nurses assists the medical inspectors and treats in school such diseases as impetigo contagiosa, ring-worm of the face, acute conjunctivitis, etc. The nurses also visit the poorer homes and see that treatment prescribed is properly given. This is done that the child may lose as little time from school work as possible. In 1903 the nurses gave 285,793 treatments, chiefly washing dirty heads, and made 24,000 visits to schools and tenements.

The New York inspectors are also obliged to visit the homes of pupils absent for several days without excuse. These visits from November 2, 1903, to May 12, 1904, resulted in the detection of 890 cases of contagious disease not reported. In no case does the medical inspector prescribe drugs; that is looked upon as the distinct function of the family physician. In 1903, 16,728 children suffering from trachoma were treated at the Gouverneur Dispensary, and 4,361 of these were operated upon. The number of visits made by New York Medical Inspectors in 1903 and 1904 was 62,298, and the individual examinations made were over 6,000,000. The number of exclusions was 20,134, distributed as follows:—

Diseases of the head....	8,040	Chicken-pox .....	160
Pediculosis .....	9,303	Whooping-cough .....	110
Eye .....	5,502	Measles .....	64
Skin .....	865	Scarlet fever .....	9
Mumps .....	501	Diphtheria .....	7

Previous to the establishment of New York's system of medical inspection; which is, I think, the most efficient now operative in any city of the world so far as the care of communicable diseases is concerned, epidemics of diphtheria, scarlet fever and measles were frequent and severe. Investigations showed that many children were allowed to attend school long before peeling had ceased. Many mild cases were not reported at all,

were never seen by a physician, and children from the infected households attended school without any hindrance.

Detroit's experience with medical school-inspection is interesting. The experiment was tried in 1902. No funds were available with which to pay inspectors, and volunteers were called for. The number of schools first inspected in February of that year was four; in March, 26 more were added, and in May the total was increased to 50. In the four and one-half months of that school year, 10,554 examinations were made and 914 exclusions resulted for the following cases:—

Scarlet fever .....	11	Impetigo .....	24
Diphtheria .....	1	Whooping-cough .....	19
Tonsillitis .....	314	Chicken-pox .....	79
Measles .....	78	Pediculosis .....	151
Mumps .....	128	Other diseases .....	117

In ascertaining the presence of visual or auditory defects so frequently unrecognized in children and so productive of serious results, no plea of mine for medical inspection can be half so forceful as a few figures on the subject taken at random. Out of 17,245 children examined in London in 1902, 18% were found to have serious visual defects.

Out of 600 children in the public schools of Glasgow between the ages of seven and 14, 166 were suffering from defective hearing. The physician making this examination asked the principal to select 70 bright and 70 backward pupils for further examination. Fourteen of the former and 28 of the latter were defective.

In New York 76 out of 570 children showed more or less serious impairment of hearing, only one of these being known to be defective by the teachers, and only 10 of the children were aware of anything wrong with themselves. Dr Probst, Secretary of the State Board of Health, informs me that Ohio is in the rear column so far as medical inspection of schools is concerned; that the only cities which have done anything in that line are Cincinnati and Cleveland. I received no response to my letter of inquiry from Cincinnati. Dr Friedrich, Health Officer of Cleveland, writes me that Cleveland expects to employ medical inspectors in the near future. These inspectors will be expected to pay daily visits to every school-house, public and private, in their respective districts. The money has not yet been appropriated, however, to pay these inspectors and the project is still embryonic. The laws of Ohio, however, require the City Health Officer to inspect every school-house biannually, and ever since Dr Friedrich came into office he has made a consistent endeavor

to live up to that law, although with more than 400 school-houses to look after, the task, in connection with his other duties, has been a difficult one. His work, however, has greatly improved the sanitary condition of Cleveland school-houses, for they are now regularly scrubbed once a month, and every room is moistened and swept at least once a day. Formerly they were simply broomed, the dust being allowed to fly about and lodge anywhere. The windows in Cleveland school-rooms are now kept bright, and children are no longer obliged to sit facing a glaring sunlight.

That feature of medical inspection capable of demonstrating its practical utility in the most striking way and the feature appealing most strongly to the general public, without doubt, is that relating to the detection of contagious disease. To my mind, however, there is no branch of the subject so thoroughly charged with the possibilities of good as that relating to the discovery and intelligent direction of the physically unfit. It is unquestionably true that much of the disease, pauperism and crime appearing in after years is due to influences operative during the period of school life, and that much of it can be avoided by the early discovery and proper care of physical defects. For example, who can tell what the possibilities might be in reducing the mortality of that greatest of all scourges, tuberculosis, whose victims, each year, in the United States, number one-seventh of those dead from all causes, if each child of school age were to be put under the watchful care of men who realized the importance of good nutrition, properly functioning organs and good sanitary surroundings in making a fight against that disease? There is no question that neglected childhood is responsible for many of these deaths.

It is equally certain that our prisons, poor-houses, and asylums are filled with men and women whose main excuse for being there is that they failed to get an early start—a start that might have been granted them, had some early defects been discovered and remedied. The State of Ohio spends over \$5,000,000 annually for the maintenance of its public charities—five times the income of all the colleges in the State. Should there not be some remedy for that condition of things? Cannot we, as medical men, contribute something toward the solution of such a problem?

I have no intention of claiming that the medical inspection of school children is the one sure way to solve these problems, but I do claim that it is a step in the direction of dealing with

them rationally. To be sure the most urgent need for regular inspection is seen in the larger cities, but no town is too small to receive marked benefits therefrom.

I hope that at no distant day every town in the Country may have its Board of Medical Inspectors, sanctioned by the Board of Education, and under the direction, if you please, of the Executive Officer of the Board of Health. I would have these inspectors give general attention to the sanitary surroundings, the detection of contagious diseases and the discovery of any defect militating against the health or future progress of the child, always being careful not to usurp in any way the province of the family physician.

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## The Care of the Sick Poor by the Hospital and Dispensary

BY F. E. BUNTS, M. D., CLEVELAND

So many agencies are at work in every civilized community tending to the relief, betterment and care of the poor that the undertaking started by the Associated Charities "to diffuse among all charity workers knowledge of the work being done by each," seems of very great value, and if in the end it be possible so to organize and develop them that they may work in harmonious and economic unison, the attempt will have proven most valuable.

Certain fundamental difficulties naturally present themselves when we come to consider the relief work done by the various hospitals. Each hospital has a very distinct and separate organization of its own, and might naturally resent any invasion into its self-selected fields of charitable endeavor. The rivalry existing between the various hospitals in every city must make this apparent. Each strives to the utmost limit of its capacity to extend its influence and its charities, and while all regard with pleasure their ability to provide for the care of the well-to-do, their greatest pride and ambition is to be able at the end of each year to point to an increasing number of the poor and unfortunate to whom they have had the good fortune to give relief. The only excuse for the existence of a semi-public hospital is the number of poor to whom it may give relief, and, therefore, those hospitals which do not contribute to the care of the poor have but little claim upon the generosity of the charitable givers of the community in which they exist, and in connection with this it becomes a matter not only of interest but of justice to the giver and to the poor to have ample assurance

that that which has been donated shall be economically and judiciously spent.

It is difficult often to determine what the legitimate *per capita* expenses connected with the care of the sick should be, but where the annual statement, to which all interested should have access, shows that the *per capita* expense has been excessive beyond all reasonable allowances, and demonstrates an extravagant or reckless waste of the public's contributions, there should be some organization of a purely public nature to investigate the matter and to caution the offending institution against such waste, and, if necessary, to call public attention to it.

This plan has obvious drawbacks, for it might serve in some instances to cause a curtailment of expenditures in that part of a hospital's management which least deserves it, namely, in the charity wards. There they must take what they get and be thankful, but in private wards and rooms such an attempt would at once be detected and if extreme or unreasonable would be promptly checked.

Hospitals derive their revenue from two sources, namely, contributions and donations, and moneys received from private patients. The payments by private patients sometimes, though not always, exceed slightly the actual cost of boarding and nursing the patient, and this balance added to the public contributions should be the amount actually devoted to the care of charity patients. Out of this must naturally be deducted the cost of maintenance and administration, but it should only be proportional to the actual number of cases treated, private and charity. When the proper proportion of expenditure on behalf of the poor does not exist, then the public's interest should be awakened and a demand made that their funds should not be turned into channels of expense other than those contemplated by the giver. In other words, money given to a hospital, unless otherwise specified, is given for the poor and not for the wealthy or well-to-do, and it should not be diverted from its purpose.

In this connection I note that certain hospitals in London have been contributing financially to the aid of medical colleges connected with them, and a commission has been appointed to investigate this diverting of the public's money and to stop the abuse if it actually exists. Such a condition does not exist here; quite the reverse, for the colleges connected with the hospitals are required to pay for the clinical privileges accorded them.

It is an easy matter, however, for the management of a hospital to overlook the true purpose of the charitable gifts received,

and I am sure it would be a satisfaction to the donor to have, so to speak, an auditing committee's assurance that his gift had served the purpose intended. Few who have not been actively engaged in hospital work can realize the amount done, and I have attempted in the short time allowed me for the preparation of this paper to get definite information from the various hospitals but have been only partially successful.

The Cleveland Homeopathic Hospital for the year ending February 1, 1904, had admitted 1,791 patients, of whom 985 were pay and 806 were free or charity cases, and the number of days of care devoted to these free cases represented 6,726 days.

The Cleveland General Hospital reports an annual admission of 900 patients, one-third, or 300 of whom were charity and their average number of days in the hospital was 20. This would represent 6,000 days of care and treatment.

The German Hospital has cared for 281 patients, of whom 32 were practically charity patients. The average duration of stay was 24 days, or a total of 768 days of care.

St. John's Hospital has cared for 800 cases, 536 of whom were charity. Supposing the average number of days of care to be 20, this would represent 10,720 days of free treatment.

Lakeside Hospital admitted 3,075 patients during the year ending December 31, 1903, of whom 1,861 were charity cases, with a total daily free attendance amounting to 31,312 days.

Charity Hospital reports 1,702 patients, of whom 810 were free and represented 23,085 days of care.

St. Alexis Hospital for the year 1903 reports 1,205 free cases, representing 27,770 days of care.

Mt. Sinai Hospital reports 425 cases, of whom 180 were free and represented 3,150 days of care.

St. Clair Hospital, for the year 1903, reports 450 cases admitted, of whom 78 were free and represented 1,276 days of free treatment.

The report of the City Hospital has not been included, as it would not properly come under the present subject of consideration.

The approximate total number of free patients receiving treatment in our various hospitals is, then, 5,808, representing at a conservative estimate 110,807 days of free care. It is only one more step to estimate the actual cost of the care of these patients. Supposing that a maximum *per capita* cost per day be represented by \$1.50, then the total necessary to care for these patients for 110,807 days would be \$166,210.

A question here suggests itself, would a donation clearing house, which would receive and dispense contributions according to the number of days of free treatment given by each hospital, be possible? I think not. Theoretically, it would be just and desirable, but practically so many objections suggest themselves that it must be regarded as impracticable.

It must not be forgotten that many patients who are limited in means, but who would scorn the idea of being the objects of charity, are after all receiving it. Many of the hospitals furnish excellent rooms with board and skilled nursing at \$8, \$9, \$10 and \$12 per week, which does not cover the actual outlay for their care, and yet it would be an actual hardship and sometimes an utter impossibility for these same patients to pay the actual cost of a private room and a good nurse; and I question whether any of us would feel inclined to lessen this unseen and unknown charity, or to make its recipient feel its sting.

I wonder if it would be very much out of place just here to call attention to the fact that in addition to the splendid work done by our semi-public hospitals as represented by these 110,807 days of free care, it carries with it the suggestion that these 110,807 days must represent the same number of days or visits made without charge by the medical profession, representing in itself an enormous additional charitable item. The public has become so accustomed to the free services of physicians in hospital and dispensary work that little or no account is taken of it or credit given, and yet it is charity freely and ungrudgingly given and representing a sum total that will compare very favorably with that given by any group of the most favored business or professional men.

It is not necessary to go into the personal care of the poor in our semi-public hospitals in this city. They are well taken care of in all of them, and all, I believe, are doing everything in their power to enlarge their fields of charitable activity, for, as I stated before, their only claim upon the public is their ability to suitably care for the poor.

The care of patients through a free dispensary service has been gradually developed in Cleveland till today thousands are annually cared for by the various hospital dispensaries widely scattered throughout the city.

Cleveland General Hospital Dispensary reports 1,602 new cases treated during 1903; Charity Hospital Dispensary reports 2,243 new cases; Western Reserve Medical College Dispensary reports 5,269 new cases; St. Alexis Hospital reports 2,195; the Homeopathic Dispensary reports 2,510 new cases. This makes a

total of over 13,000 cases receiving free treatment at the dispensaries, and doubtless to this number ought to be added many hundreds who receive free outside treatment from the smaller hospitals that have no distinct dispensary service established.

These patients are divided into various groups according to their diseases, and physicians specially qualified in those special branches donate their services absolutely free to the relief of these thousands of unfortunate poor. To quote from the annual report of the Cleveland General Hospital, "A number of the dispensary physicians conduct clinics on six days of the week, and spend on an average two hours of their time each day at this work. Computing for the year, this sums up to six hundred hours by each physician, which are all freely and cheerfully given to assist in the work of charity which is carried on daily here. Surely if one person in every ten would devote as much time to alleviate the sufferings of the unfortunate what a different world this would be." An attempt is made in most dispensaries to make those who are able pay a nominal fee of ten cents for medicines, etc., received. This covers the cost of medicine or surgical supplies in but few cases, but it helps in a very small way to support the dispensary and to make the applicant feel that he is paying in a manner for the services received.

In addition to the physician in attendance there are usually a certain number of nurses who lend their aid, these nurses being connected with the hospitals to which the dispensaries are attached.

So far as I know there is but one endowed dispensary, that of Western Reserve Medical College, so that the support and administration of this branch of charity becomes a very considerable tax upon the resources of the hospital. It is true that the city provides district physicians to whom this class of patients are entitled to apply for treatment, but however well qualified these physicians may be they cannot be expected to be so well qualified in the various specialties as these specialists in the different dispensaries. The number of district physicians was recently reduced to six for the entire city, and if the care of thirteen or more thousand patients were added to their already arduous duties the results might easily be imagined.

I have no doubt but that the dispensaries are frequently imposed upon by those who could readily afford to pay for their treatment, and are, therefore, not entitled to, or deserving of charity, and efforts are made by the dispensaries to weed these out, but it is a difficult matter to accomplish, for it would be too much

added work to follow these people to their homes or to make the necessary inquiries to determine their financial condition. And while the dispensary physicians are often criticized for treating free of cost those able to pay, they are placed in the position often where they must do so or run the risk of refusing service to some one who honestly deserves it.

This being the state of affairs in dispensaries, it seems to me that now is a fitting time to inaugurate by common consent an entirely safe method of deciding as to the fitness of the applicant for treatment. As I understand it, the officers of the Associated Charities are prepared to investigate all cases claiming their aid, and if to these duties they could be prevailed upon to add the investigation of dispensary patients, the evils of the system might be remedied to a great extent. A daily or weekly statement could be furnished by each dispensary of all new applicants, and if the Associated Charities were prepared to pass upon or investigate these cases and report back their findings and recommendations, a safe working basis would be established. The initial work that this would entail would be very great, but in the end their names, addresses and status would be indexed and ready for reference. Then, too, there are many cases so obviously and indisputably destitute of means that their names need not be reported unless especially desired for reference.

If to this work they might also add the investigation of suspected cases of imposition in the hospital wards, one of the greatest evils of free medical treatment could be eliminated, and not only this, but it would mean a very considerable saving to the hospitals and dispensaries, which could be used as it should be in the care of the deserving poor.

Another urgent need for the betterment of dispensary treatment is the help of skilled nurses—nurses who can attend the dispensaries, become acquainted and familiar with the work and with the patients, and whenever necessary follow them to their homes and inaugurate with the patient's cooperation needed methods of home treatment and hygiene. I am very much of the opinion that this would be of the greatest possible benefit, not only to the patient, but, from its educational value in hygienic measures, to the entire public. I know that a certain number of nurses are already working along this line and are doing able and arduous work, but it seems to me that there must necessarily exist a lack of cordiality and appreciation of their services by their patients that would in a very great measure be overcome were they to come in daily

contact with them in the dispensary, and learn to know and appreciate the work they are attempting to accomplish.

I believe this system has been inaugurated in the Tubercular Dispensary recently established in this city, and I am sure it will prove of the very greatest value. It is almost a hopeless task to attempt to regulate home surroundings, habits, and treatment by the brief instructions which may be given at the dispensary, but if this instruction can be followed up by the visit and help of the nurse much may be accomplished. I imagine, however, that a nurse to be successful in this work must be imbued with more than ordinary enthusiasm and devotion to her work. She must put herself so far as possible in harmony with her surroundings and be a good deal of a sociologist as well as a very highly qualified nurse. A mere perfunctory performance of her duties will never gain the appreciation, sympathy or cooperation of those we are seeking to aid and improve.

One more thought suggests itself very forcibly to me in connection with hospital and dispensary care of the poor. There is nowhere in this big city of nearly half a million inhabitants, among all our manifold charitable institutions, one that has provided a fund for the purchase of deformity apparatus, artificial limbs, etc., for the deserving poor. The drain on any large hospital that was not endowed would be too great and yet, what a selfish thing it is among us who have escaped the deformities of birth, disease and accident, that there is no fund available to supply our unfortunate fellow men. It has been a pitiful sight to me so many times in the past fifteen years to see men and boys and even women leave a hospital with a hand, or arm, or foot, or leg gone, and no one to help them to provide a substitute that would relieve them almost entirely of their helplessness, and the cheerful resignation and dogged determination of some of these unfortunate cripples in their efforts to work and earn enough to buy the coveted appliance are oftentimes pathetic. The same is true of many deformities which may be corrected by operation but need retention and deformity apparatus to complete the cure. The results of operation are too often nullified by this lack of orthopedic apparatus, and needless cripples and distressing deformities shock our hypersensitive souls as we walk the streets.

In conclusion I beg to call special attention to a few points touched upon in this paper: (1) all money donated for charitable purposes should be used for that alone; (2) it would be desirable, though possibly impracticable, to have a Public Standing Committee to make suitable investigations and reports in this con-

nnection; (3) the actual amount necessary to be obtained through some source for charity patients alone is about \$170,000; (4) the desirability of having visiting nurses attached to each dispensary; (5) the investigation by the Associated Charities of the financial status of our free hospital and dispensary patients; (6) what appears to me to be one of the very great and urgent needs in our system of care for the poor, the establishment of a fund for the purchase of suitable apparatus for our deformed and crippled poor.

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## The Care of the Sick Poor by the District Physician

BY L. W. CHILDS, M. D., CLEVELAND

The available annual reports of the Health Office show that the district physician has always been a very active official, and we are proud to number among us, as workers in the past, such well known men as Drs Powell, Kelley, Russell, Tuckerman, Norton, Friedrich and others. I believe that all of these men found their district work afforded them an experience which has proved invaluable.

The conditions which the district physician is constantly meeting may best be described by taking a typical case.

Vodka Polaski lives in the rear of the rear house bearing the chalk number of 990 Smoke Street. His home is most accessible by crossing the net-work of tracks on Badodor Street until you come to Dog Alley. "You then turn up on your right hand at the next turning, but at the next turning of all on your left, and the very next turning, turn off no hand but down indirectly" into Polaski's home.

Vodka Polaski has seven children living and seven dead. He has endured married life 14 years. Thus his marriage has been a matrimonial bond with an annual coupon. The Polaski apartments consist of one small living-room six paces by seven and two small bedrooms. One of the bedrooms is occupied by two boarders, refugees from Russia, who pay for their board at the rate of 75 cents a week. The remaining bedroom, with its well-battened windows to keep out the cold, is the sleeping room for the other nine members of the family. This room contains two beds which occupy nearly the entire floor-space of the room. There is one article of luxury, a small strip of carpeting upon which Mr. Polaski, who has tuberculosis, freely expectorates.

The living-room is ornamented by a small cook-stove which

fulfills the double function of cooking and heating. The dirty floor has upon it that inevitable germ-catcher a strip of carpet. A few chairs and a table comprise the family stock of furniture. Upon the table the unwashed dinner dishes usually stand. This is the place where the family stock of milk is also kept. I have often seen milkmen's bottles, partly filled with milk and unstopped, standing in the hot rooms in the sunlight, with flies crawling about in them.

The district physician entered this household one evening to investigate a suspected case of smallpox. There he found the object of his visit sleeping with six other children and their father in that small room. The child was dirty and had that common accompaniment of filth, impetigo, and not smallpox. The children were examined in turn and two of them, both school children, showed hands the palms of which were roughened and peeling. Upon further investigation it appeared that these children had had a slight rash which the mother thought due to stomach trouble but which in reality was scarlet-fever. The district physician then turned his attention to Mr. Polaski who had been coughing and expectorating and drinking whiskey to prevent him from taking more cold. He refused to go to the hospital since his family needed the one dollar and 25 cents a day that he was still able to earn. He remained a source of infection to his family. Now what is the district physician's plain duty to this typical family, and what does the safety of the public demand of him? Certainly not to leave a few pills and to take his departure.

The school to which these children go must be inspected to see if there be other cases of scarlet-fever. The case of tuberculosis must be reported, and the father must be induced to go to the hospital, if possible; alas, this is too often impossible. The family must be instructed in the elementary rules of hygiene and cleanliness. They must learn how to ventilate their apartments, how to care for the milk that the milkman leaves upon the doorstep in the hot sunlight. They must learn how to modify the milk that the growing babe may drink it without harm. This is the true work of the district physician. In this work the district nurse is a most valuable aid.

As is well known, foreigners of the pauper and ignorant class are journeying into our cities at an unprecedented rate. These people settle in colonies and their sudden inrush has brought about the necessity of providing, within a limited space, houses for a large number at a much faster rate than can be intelligently

done. Since the territory around these settlements is already occupied, thus rendering outward expansion impossible, an over-congestion is the natural result. The over-crowding of these foreign communities is so great that they have become perfect hot-beds of communicable diseases. Tuberculosis has become very common. Rickets in children—an oxygen-hunger disease—the rule, and these children are an ever-present menace to the public schools.

In the mild cases of communicable diseases in these families of the poor a physician is rarely called, and if called at all, he is called only when the child is very ill. In the meanwhile the exposed children are allowed to attend school. Only a short time ago I detected a case of diphtheria in a school-room of the Wade Park School. A culture was taken from the child's throat and the city laboratory reported diphtheria. The mother of the child had employed no physician and supposed the case to be simply tonsillitis. In many cases of diphtheria no membrane can be seen, and the parents of these children almost invariably allow them to attend school. As a rule a child who has diphtheria is allowed to return to school before his throat is bacteriologically free.

During the month of November I made three visits to the Oakland School and examined 22 children, five of these children had impetigo contagiosa, and one had scabies. These six were excluded from the school, and in some cases their books were burned. Fifteen other children were also excluded because of the existence upon them of vermin. In a number of instances I have found children in schools whose recovery from scarlet-fever was incomplete.

The over-crowding of the foreign resident sections, coupled with the avarice of landlords, gives birth to the triplets, dirt, disease and the devil. In the management of these triplets the third named lusty youngster is entrusted to the Police Department, while dirt and disease command the attention of the Health Department. For a considerable period of the city's history, the devil received the lion's share of attention since the Health Department was subservient to the Police Department and the Director of Police appointed the Health Officer and the district physicians and dismissed them at will. This unstable tenure of office discouraged good work. Only small sums were appropriated for the fight against dirt and disease, and consequently but little progress was made against them. But, of late, a new era has dawned. Well-organized crusades have been started for the prevention of communicable diseases. In this crusade let it be under-

stood that the function of the Health Office is hygienic and not therapeutic. Thirty years ago when Cleveland had a population of 135,000 there were six district physicians receiving the same salary that the six of the present day receive. They had their offices in accessible places with a large sign containing the words "District Physician" hanging over their doors (that sign by the way has descended to us). In those days there were no free dispensaries worthy of the name, consequently the district physician had a regular dispensary practice and cared for all classes of cases: eye, ear, nose, throat, skin, children, etc. He was a therapist and prescribed much. The advent of the free dispensary and hospital has taken much of this work from the district physician. The work that demands our attention today is hygiene and diagnosis.

The seriously ill poor are not allowed to remain in their homes if the city doctor can, through his influence, effect their removal to hospitals, sanatoria, fresh-air camps, etc. The district physician must be a diagnostician. He is repeatedly sent to visit cases to verify the diagnosis of other physicians, especially in cases of chickenpox, smallpox and measles. In order to avoid friction with the profession at large, he must be strong, tactful, and enjoy the respect of his medical brothers. Successful public school inspection will call for the services of able diagnosticians and men of high professional standards.

Interdependence and unity is the theme of the various organizations represented here tonight. We must become better acquainted and make known our mutual needs. I wish to thank the Associated Charities for the stove sent to Mr. Polaski. I notice that since he has felt the warmth of that stove, that he has drunk less whiskey, but the stove is being heated with coal stolen from the railroad track, and the Infirmary Department must be notified that they need coal. The floor of the Polaski home is dirty; the family has no knowledge of cleanliness, and I wish we might, at least, teach Mrs. Polaski not to keep the milkman's milk on the table where the flies and the hot sun have access to it. She has been giving this milk to the baby and, as a result, the child has been ill with gastroenteritis. But to keep milk from spoiling, people need ice and these people can't afford to buy ice. Would it not be productive of great good to establish, in these communities, stations where ice can be procured at cost?

What can be done by the district physician in Mr. Polaski's case? If he consents to go to the tuberculosis hospital, the problem is easy, but the majority of these cases refuse to go and

continue to remain a menace to the health of their families and the community. Under these circumstances our only recourse is to report the case to the tuberculosis dispensary. The little baby with bowel trouble we send to the fresh-air camp.

You have now accompanied the district physician upon a typical trip, to a typical home, in a typical community. His dependence upon nonmedical agencies in accomplishing good results has no doubt impressed you.

We thank this conference for the honor you have conferred upon us. It is our wish to cooperate with you more intelligently in our noble work.

## The Care of the Sick Poor in their Homes

BY MISS MATILDA JOHNSON, CLEVELAND  
Superintendent Visiting Nurses' Association

The care of the sick in their homes is a very broad subject, and one which I do not feel qualified to treat of except from the standpoint of the work done for them by trained nurses under the government of an Association.

It is better for me to keep to the phase of this work, of which I can give you an accurate picture, than to speak, even briefly, of the ministrations to the sick poor which have so long been made in all communities by Sisters of Mercy, by the Deaconesses of the Methodist Church, by the voluntary and professional nurses, and nursing Sisterhoods sent out by other churches and church societies and by the workers in the Salvation Army. Through all these channels the sick poor have been often and much visited in their homes and relieved in their misery.

Of a visiting nurse Association such as we have in Cleveland, and which I think is fairly typical of such Associations in other cities of this country, experience enables me to speak accurately.

I must assume for the sake of a beginning that many of you are not familiar with our organization or its methods. The Visiting Nurses' Association in Cleveland is three years old. When it began its work it had only two nurses on its staff. Now it has nine, and these nine have to discourage new work rather than to solicit it, since they can barely carry what comes to them in the regular course of events. The city has been divided by the Association into six districts, each of which has a nurse in charge. In each district she establishes a loan closet at some central point, and at that point she has also the use of a telephone. These privileges are given to the Association. The six stations are at

the following points: Goodrich House, Alta House, Hiram House, Pilgrim Church, Tielke's Drug Store, Friendly Inn, and the very recently established one at the Western Reserve Tuberculosis Dispensary in the medical school building.

The loan closets contain: house and bed-linen, night-gowns, sick room necessities, such as wheel-chairs, cots, rubber goods, also surgical appliances, such as crutches, braces, supports, etc. These articles are never given to the patients—they are loaned when necessary and must be returned to the closet, clean and in good order. Besides these articles all manner of bandages and dressings, which are made and sterilized at the central office, are kept in the closets.

Visiting the sick poor in their homes is much simplified by having these supplies and the supplies of the emergency bag which the nurse always carries with her on her rounds. This bag is stocked with essentials only as the question of weight has to be carefully considered. A compressible wash-basin ought to be added to the contents of this bag as there is very often no other utensil for bathing purposes in the homes visited than a dish pan or large wooden tub. Besides the seven nurses in charge of these districts there is a relieving nurse who takes any place left vacant by illness or vacation and also makes the surplus calls which could not otherwise be made. The ninth nurse is a superintendent who has charge of the central office at the Kingmoore Building, and who, in a general way, plans the work and visits turnabout in the different districts. The floating hospital under the care of the Association has from 300 to 400 beds constantly under its care. The six districts are its wards, and the families of the sick ones are its probationers and pupils. Wards and beds alike are in a sad state of dirt and confusion but the suggestions of decency and order, which the nurse leaves behind her after a visit, have an appreciable effect on the people and their surroundings.

The entrance of a nurse into a home in which sickness and poverty are combining to make disastrous conditions for the household brings a feeling of such relief that her every word and action have value in the eyes of the family. The things she does while at her duties are like a series of vivid pictures to the people who watch her, and who probably have had no opportunity to learn even the common decencies of life from living example. We all know that the best way to reach the ignorant is by pictures, and there is great value in the living picture of cleanliness, industry, swiftness, kindness and skill presented by the nurse when at her work. A fact which points this truth is that a nurse on her second

visit to a house seldom has to ask for hot water or towels. These things are not only ready but are handed to her. The members of the family become her assistants. On the occasion of her first entrance into many of these sad homes, and this is especially true if the mother of the family is ill, the father away at work, and the children young, the nurse must build a fire before she can have warm water to bathe her patient or have heat for the patient's and family's comfort. Sometimes she may even have to fray a path with her broom to the bedside of the sick one.

The bedrooms in many of the houses visited are dark, small, closely crowded and without ventilation; therefore, a nurse's first care after bathing her patient is to get her into a better spot in the apartment where she can have more light and air, and, also, to secure for her the entire use of a bed, instead of the third or fourth part of one. In order to do this she must take a cot from her loan closet. Very often she must make this cot up with fresh linen from the closet and provide a bedgown from the same source. When the patient is made comfortable the nurse proceeds to give her the same attention that she would give to any private patient. If the nurse has been sent for by a physician she follows out the orders left by him. If the call has come from the patient herself, or one of her friends, the nurse uses her influence to have the family send for a physician. The nurse makes a regular bedside chart as she would make in a hospital, and this chart afterwards becomes the property of the Association. These charts as well as the nurse's report-card are condensed monthly into a record which is accessible to inspection at the central office. The value of this statistical work is of course very great.

When the nurse leaves the house, after a very active visit of from half an hour to forty minutes, she puts some member of the family or some kindly neighbor in charge of the patient.

In spite of the varied nationalities of the families in which the nurse visits she very seldom has any trouble in making herself understood, as her whole visit consists in a practical demonstration, and the members of the family learn by seeing her work as they would learn from pictures. I will tell you one very interesting and curious fact which goes to prove that the nurse exerts a strong enough influence over her patients occasionally to conquer some of their habits and prejudices. In many of these homes in which the members of the family are of foreign birth, and especially when their youth has been passed in the old world, it is not unusual to find that the women have accumulated large stores of linen, which they have woven and spun as part of their marriage

portion, and which they keep stored away in chests while their beds have often no trace of a sheet or pillow-case upon them. I have sometimes found as many as forty articles of every different kind of bed- and house-linen in such homes. The reason for the hoarding away of this treasure lies partly in the fact that the quarters in which these people live are too cramped to admit of much washing and drying of clothes, and often one water-tap in the court is the only water-supply provided for the use of four or five families. After the second or third visit of a nurse the linen chests are many times open and the beds made in good order. This shows a desire to please and cooperate with her, and is a proof of good will and gratitude and some shame also at being found in so squalid a condition.

There is a great deal of walking to do in each district as the calls of course lead to places off the car line. At the most a nurse cannot visit more than fourteen patients a day, she usually averages twelve. Some of the districts ought to be divided into two or three portions and a nurse assigned to each, but the work grows faster than the funds to meet it.

Whenever it is possible and advisable to send a patient to a hospital the nurse tries to do so. But, very often, a long absence from home on the part of the mother of a family will break up a home. The father will become lonely and discouraged, the children wild and lawless, and if the patient in the hospital is taken care of free of charge, and the children transferred to the care of relatives and friends, the man will sometimes spend his earnings on himself and get into bad habits. Where possible, it is best to keep the home together and to teach the family how to bear its own burdens. Though this is, of course, the ideal solution of the question, it is very often necessary to send the sick to hospitals where they can have constant care. In these cases the nurses try to have these families do what they can to help the institution that comes to their aid. In the case of her own visit the policy of the Association is that the nurses should ask a small fee, of from five to 25 cents, whenever the circumstances of her patient permits them to give it. This protects their self-respect and adds a small revenue to the treasury of the Association. Money taken in this year in this way amounted to about \$160.00. As the nurses make between 18 thousand to 20 thousand visits yearly this of course means that few of the patients are able to pay anything.

One of the principal offices of the Association is to place the troubles of its patients before the institutions or organizations which have been created to help them. The very poor are often so ignorant that they have no means of reaching the right people,

that is, the people whose mission it is to relieve them. A very striking instance of this ignorance and helplessness occurred sometime ago in one of the western States to which a family of English emigrants had gone directly on their arrival in this country. Several months after reaching this western town the family lost a child by death, and, in their distress, hunted about for a minister to come and perform the burial service. Up to this time they had formed no relationship with any church or organization. By chance the first minister they went to was an Episcopalian. While he was reading the service they became wonderingly aware that they were listening to the same ritual that they had heard in their own country from childhood, and which they knew only under the name of the service of the Church of England. They supposed they had left their church behind them with their country. After this they went to church and were in touch with an institution which had many ways to help them. This is just an example of the helplessness of the emigrant poor. They are more dazed and ignorant and confused by the difference in conditions in this country than is generally thought. Many of these conditions are apparent in the homes of the sick poor and they can be relieved by the nurse who visits them. It is properly speaking not within the province of the visiting nurse to give material aid to the families whom she visits, but she has in the past distributed certain delicacies and given infants clothing which have been sent as gifts to her loan closet.

The care of the sick poor in their homes is made possible for the nurse, as I said before, by the contents of her loan closet and emergency bag. The nurse wears a washable cotton uniform, covered by a long blue coat when she is on the street. Her hat is small and close in shape to enable her to walk the gusty winter streets in comfort.

I have constantly spoken of the patient in the feminine gender, but this comes from the fact that I began speaking of the conditions which exist when the house mother is laid low. The Association visit patients of all ages, sexes, nationalities and creeds without any distinction whatever. It cares for surgical and medical cases, for accidents as well as chronic diseases and it cooperates with all the other charities and organizations that it can reach. One cannot visit the sick poor in their homes without seeking to improve the whole fabric of their social condition and, in time of illness, the poor extend a cordial welcome to a visitor who comes with the intention of relieving their physical distress, when, perhaps, they would look with suspicion upon one who came to relieve them when the necessity was less obvious to themselves.

# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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## EDITORIAL

### Experimental Typhoid Fever

In spite of the assurance which we have that the disease known as typhoid is caused by the typhoid bacillus, the ultimate link in Koch's chain of proof has been lacking. Inoculations of the bacilli into the digestive tract as well as into the serous cavities and the general circulation, while they caused the death of the animal, did not set up the typical lesions that are considered as more or less pathognomonic. In fact, similar lesions could be caused by the colon bacillus and other organisms if they were injected in sufficient quantities.

Various theories have been advanced to explain this series of failures, among others that the acid reaction of the stomach was a hindrance, as it is known that the typhoid bacillus prefers an alkalin medium for growth. Experiments after preliminary alkalinization of the stomach were performed but without very satisfactory results. Perhaps the most recent work on the subject has been done in the Pasteur Institute, by Atlassoff under the direction of Metschnikoff, with results which give promise of

increased knowledge of the disease. It was the idea of the author that perhaps better results could be obtained if the gastro-intestinal tract was as nearly sterile as possible, and in the absence of practical methods of obtaining such a condition artificially he resorted to the use of very young rabbits, in which the intestinal flora was quite scanty.

Experiments in *vitro* had led to the belief that certain organisms, when grown in symbiosis with the typhoid bacillus, were able to help it to survive unfavorable conditions, especially excess of acid, so this information was also made use of. The organism most suitable for this purpose was found to be a pink yeast which is very common in nature and is often found in the stomach.

Rabbits of a few days old were fed with cultures of typhoid and this yeast or torula, control animals being carefully kept for comparison. Nearly all the inoculated animals died in the course of a few days and the typhoid bacillus was recovered in culture from the blood and organs. In the intestines at autopsy the author found lesions of the Peyer's patches similar to those in the early stages of typhoid, with loss of the mucosa and infiltration of the subjacent tissues. There were also changes in the colon of similar though less marked character. Acute splenic tumor was also the rule. A second series of controls with the typhoid bacillus alone was less successful, a larger proportion of the animals surviving, and death being delayed.

The report is of great interest, and it is to be hoped that the author will carry the experiments further. Graduated doses should give a delayed reaction such that the intestinal changes would go deeper and simulate human typhoid more closely. The work is too recent for confirmation, but the fact that it was done in Metschnikoff's laboratory is in favor of its accuracy and we may expect more reports in the same direction.

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### Tuberculosis—The Real Race Suicide

To *McClure's Magazine* for January, Mr Samuel Hopkins Adams, a staff writer for the magazine, contributes an interesting article on this subject. While not adding anything to the knowledge of a physician who has kept abreast of the movement of modern thought concerning this scourge, the article is one likely to afford enlightenment to the public. Mr Adams considers in turn the number of deaths from this disease, its causes, the parts of the body affected and the organizations whose purpose is the

study and control of tuberculosis. He enters most thoroughly into the discussion of several matters which are greatly in need of a forceful presentation to the mind of the public. Among these are the frightful toll which is taken from the poorer classes on account of unsanitary tenements, and the value of light, fresh air and good food, both in the prevention and treatment of the disease. He combats very strongly the prevalent idea that the tuberculous individual, who is aware of his condition and understands the precautions which may be taken to prevent the spread of the disease, is necessarily dangerous to the community; and pleads that such a one shall be allowed to live his life under the best possible surroundings, whether he be in his home or in an institution. In this portion of the article, he pays his respects to New York's short-sighted and inhumane attitude which prevents the establishment of sanitaria in country places. The article covers the ground very thoroughly and says little which does not greatly need to be presented to the public. The only suggestion we would offer, and it is not really an essential criticism, is, that with the evident desire to speak forcefully, he has perhaps at times somewhat exaggerated—a fault which may easily be condoned.

#### THE NEED FOR A PROPER REGISTRATION OF ALL CASES

Mr Adams points out very clearly that in an attempt to check the ravages of tuberculosis a registration of cases with municipal control is necessary. It is this part of the article that we as physicians should take most to heart. He scarcely overstates the matter when he says that the enactment of effectual laws for registration have not been secured without a hard fight against the upholders of professional privilege. He states that not only is the enactment of such laws fought by the physician, but, worse than all, such laws when enacted are very largely disregarded. He feels that not only are the cases of tuberculosis not reported but even deaths from that cause are reported under different names, and says: "I know of one prominent physician who candidly admits that he has never signed a certificate of death from tuberculosis, his patients die more elegantly from 'bronchitis.'" With respect to the law in New York City, which is not only admirable in its provisions but wisely enforced, every prominent medical society in the city and county combatted it, but without avail. He does not wish to be understood from the foregoing that the universal anti-tuberculosis movement has been carried out by laymen, for this is not the case. In the forefront of every movement of this kind may be found one or more devoted and self-sacrificing physicians, but the significant fact is that the

propaganda has been carried out in the face, usually, of the opposition of individual physicians and of the organized profession. Fortunately the sentiment in favor of compulsory registration is growing, and now cities which adopt this measure have less and less opposition to meet.

These few words have been written not only as a means of commanding *McClure's Magazine* for the publication of a valuable article but because of the opportunity offered to express the hope that the enactment of the health code of Cleveland in its entirety, which is to contain provisions similar to those enforced in New York City, will be urged by physicians as individuals and by the organized profession. We believe that such will be the case, not only on account of the growing sentiment in its favor but also on account of the unusual public sentiment of the profession in this city.

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### The Medical Inspection of Schools

We publish elsewhere in this number of the JOURNAL a paper upon the medical inspection of schools, which is of decided value because it reviews so thoroughly the experience of cities which have inaugurated the system, and is further of especial timeliness in Cleveland where this subject is now under consideration. In those cities in which the medical inspection of schools has been instituted, so far as suggested by the paper referred to, and so far as is known to the writer of this editorial, the work has been done by physicians who have not been otherwise connected with the charitable medical work of the city. This seems to us a better plan than that proposed for Cleveland, namely increasing the number of the city physicians to such an extent that they can add this considerable amount of work and responsibility to their already arduous duties. One particular reason for this attitude arises from the thought that some who might be particularly fitted for the duties of school inspectorships, might not care for those imposed upon the district physician or for the surgical work they are called upon to perform in their capacity as surgeon to the police stations. Such inspection of the schools as is proposed is, however, of sufficient importance that the method of accomplishing it becomes a relatively unimportant detail, and we welcome the movement in Cleveland and earnestly desire its success.

In some places the inspectors are chiefly concerned with the detection of mental and physical defects, such as refractive errors, defective hearing, etc. When such is considered to be their only

duty the visits to schools vary in frequency from a few times a year to about once a fortnight. In other cities the main stress is laid upon the exclusion from the schools of children suffering from contagious diseases; under these circumstances daily visits are almost a necessity. It is our opinion that it is advisable, not only to attempt to prevent the spread of contagious diseases through school attendance, but further, by insisting upon treatment for all those children with defective sight and hearing, and for those suffering with chronic anemia and other diseases of this character, and also for those suffering from static errors, spinal curvature, etc., to immeasurably increase for them the value of their school life and future physical well-being.

Each school should be supplied with test-letters and such other apparatus as may be absolutely necessary for the detection of defects of sense organs, when such apparatus is of too great bulk for the inspectors to carry with them. They should also be supplied with culture outfits, and cultures should be taken from all cases of acute pharyngitis or tonsillitis, the children being excluded from the schools until a report can be made upon the culture the following day.

We wish to commend the idea of an association of inspectors as in Boston, where they have regular meetings to discuss questions pertaining to their work. The uniformity and efficiency of school inspection could not fail to be greatly improved in this way.

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### Spitting in Street Cars

There was a marked amelioration of this nuisance following the posting of notices, in each street car, of the city by-law making it a punishable offense to spit in a street car. The practice still continues, however, although not to such an extent as formerly. No effort seems to be made either by the railroad or city officials to enforce the law. The offense is almost always due to thoughtlessness, and if the conductor would merely draw the attention of the offender to the notice, it would no doubt prove effectual, not only for that particular occasion, but also for the future. The casual observer may notice, almost daily, the complete indifference of the conductors to the violation of the ordinance. It is certainly the duty of the company to insist upon the observance of the law.

In other cities, notably Louisville, Kentucky, the women have been instrumental in preventing the nuisance which is especially

disgusting to them on account of their trailing unsanitary skirts. If the matter were more often brought to the notice of the public through the agency of the daily press and the danger of spreading disease by indiscriminate spitting, explained, the evil might be considerably mitigated. The popular campaign against tuberculosis, now being waged all over the country, has already been productive of much good in this respect. The proper course for the railroad officials is clear, let the conductors be instructed to draw the attention of any offender to the notice. This will almost invariably be sufficient but, if not, more drastic measures can easily be adopted.

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### The Mann Bill

In the November number of the JOURNAL we had occasion to call attention to the unjust tariff which compels us to pay \$1.00 per ounce for phenacetin when the same quantity of this drug can be purchased in Canada for 15 cents an ounce. Our attention has recently been called to the Bill introduced into the House by Representative Mann, of Illinois (H. R. No. 13,679). This Bill, conveniently called the Mann Bill, embraces two chief propositions: First, it states that "No patent shall be granted upon any drug, medicine or medicinal chemical except insofar as the same relates to a definite process for the preparation of said drug, medicine or medicinal 'chemical'"; secondly, it requires that any patent pertaining to the manufacture of drugs or medicines shall be actually operative in the United States within two years following the date of said patent, and further declares that unless the patentee continue his manufacture in this country, he shall have no protection against the importation or manufacture of the article in question by any citizen of this country. In Germany and in most European countries, no patents are granted upon substances necessary for medical treatment. Under these circumstances, it is natural that drugs should be sold in these countries at a price approximately near their correct value and any individual is, of course, free to manufacture them. In our own country our extraordinary patent laws have been taken advantage of by many foreign manufacturers who, under the protection given by United States patents, are secure in their monopoly of the sale of their product in this country. It is a lamentable condition of things when the United States patent acts solely as a protection to the foreign manufacturer and is a great burden to the American consumer. The German company, which controls the patent rights for

phenacetin in this country, is able to sell its product, presumably at a reasonable profit in Germany, for six cents per ounce; in Canada for 15 cents per ounce; and in the United States for \$1.00 an ounce, this difference in price being due to the fact that the United States patent is granted upon the product itself and not upon the process of manufacture. Apart from the great injustice of this situation to American consumers, it is a potent influence for harm in its inevitable tendency to encourage substitution. It is to be hoped that the Mann Bill may become a law. Its provisions seem in every way eminently just and it has the enthusiastic support of the National Association of Pharmacists. No effort should, in our judgment, be spared to secure the passage of this Bill, for unless this Bill shall become a law we must go on indefinitely paying toll to the foreign monopoly granted from the liberality (?) of our own patent laws.

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### The Cleveland Associated Charities

In this issue we publish certain of the papers read at the first conference of the Cleveland Associated Charities, held recently. We consider the object of this organization and the work it is doing most commendable. The charity workers of the city have made laudable efforts in the past to cope with the poverty and want incident to the rapid growth of our large city, but through lack of coöperation and interdependence, much of this effort has been misdirected or lost.

The Associated Charities is aiming, in addition to its own work, to offer a sort of charity clearing house of which it is inviting workers along various lines to avail themselves. In this way cases which can be most advantageously handled by an organization are referred to it, and other cases are directed into other channels. This allows each charity to devote its attention to a class of aid which it is best fitted to offer; it aims to make each branch a specialist rather than a general worker.

This results not only in making the work of each more effective, but also prevents duplication. It has been discovered that certain of the poor were sharp enough to obtain aid from several sources at one time, thus depriving deserving applicants by exhausting the resources of the donors. Probably the Thanksgiving offerings of the present year were never before so judiciously divided, for by a checking system inaugurated by the Associated Charities, unwise duplications of donations from the

various charitable organizations to the same individual were prevented.

The complete records of applicants which are kept on file by the Association, and its thorough investigation of their circumstances, insures a satisfactory distribution of relief. The members of the medical profession of this city are constantly meeting with all forms of want where medical aid alone will not suffice. We are glad to bring the work of the Associated Charities to their attention.

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## Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

**Methylene Blue:** Horatio C. Wood, Jr., in *The Therapeutic Review* for November, states that particular interest relates to the value of methylene blue in those cases of malaria in which quinin is contraindicated, and of these by far the most important is hemoglobinuria. He asserts that it is not irritating to the kidneys, and all those who have employed it in blackwater fever are in accord with the statement that it never increases the hematuria, and many believe that it exercises a directly beneficial action upon the kidneys apart from its anti-periodic properties. Ollwig reported a case of chronic malaria in which quinin always led to hemoglobinuria, but under the use of methylene blue both the blood and the albumin completely disappeared from the urine. In another case, in which, as a result of repeated hemorrhages from the kidney, the hemoglobin had fallen to 50%; under methylene blue there was prompt recovery and, in the course of a few weeks, a normal percentage of hemoglobin. The mode of administration, followed by Wood, has been simply to give the drug in doses of two or three grains every three hours for a week or 10 days, and follow by a gradual withdrawal. He believes that this plan of prescribing methylene blue is practically as efficacious as the more elaborate plans offered. One point he emphasizes is the continuance of the treatment over a period of several weeks, believing that a failure to observe this precaution has been the cause of many of the relapses reported. He has not observed the by-symptoms, as vomiting, loss of appetite, strangury, and symptoms of bladder irritation sometimes reported. Prenski and Blatteis assert that most of the unpleasant symptoms attributed to methylene blue, are due to the use of the dye instead of the medicinal methylene blue. Medicinal methylene blue is a different substance from that used as a stain, although closely related to it chemically. The medicinal methylene blue is the simple chlorid of tetramethylthionin, while the dye stuff is the double chlorid of zinc and tetramethylthionin. Moreover the dye stuff contains various impurities of which arsenic is most important. One drawback of methylene blue is its vigorous staining properties. The urine and occasionally also the saliva is bluish. The combination of quinin and methylene blue would seem quite a rational prescription, as the quinin would destroy the young forms of the plasmodium and the methylene blue would attack the adults. He thinks the conclusion is justified that in methylene blue we have an antiperiodic which rivals quinin in power, and which is in many cases to be preferred to that alkaloid on account of its freedom from unpleasant symptoms.

**Veronal:** James Burnett, in *Merck's Archives* for December (from *Journal Mental and Nervous Diseases*),

has used veronal in doses of from seven and one-half to 15 grains and concludes that there is a wide range of conditions productive of insomnia in which veronal may be successfully employed. No bad after effects were observed in any cases and only in one, namely a severe case of neuralgia, did it fail to produce the desired result. Luther and Würth have obtained good results from its use in a variety of mental diseases. Luther specially emphasizes the fact that veronal has not the strong disagreeable taste of such hypnotics as chloral hydrate, paraldehyd and dormial. It surpasses the two latter in the duration of its action, and its effect is not cumulative as is that of sulfonal and trional. It produces a natural and pleasant sleep and is a very useful remedy in the treatment of the excitability associated with mental diseases.

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**Enuresis:** In the *Journal of the American Medical Association* for December 17, Maurice Oxtheimer and

J. Valentine Levi summarize the treatment of enuresis in 90 children. In every case errors in diet were first corrected and nothing was allowed between meals except milk; no liquids were permitted after supper, and the fluid taken at that meal was limited to one cup or glassful. Cold sponge baths of two minutes duration were ordered daily on rising, and associated conditions, catarrh, otitis, etc., were given special attention. Tincture of belladonna was first prescribed in ascending drop doses, beginning with three drops three times daily, increasing one drop a day. With this a bitter alkaline tonic was given before meals. When as many as 10 or 15 drops of tincture of belladonna thrice failed to control the enuresis, aromatic tincture of rhus was tried, increasing gradually up to 30 minims a day. If this also failed, as it usually did, a solution containing 1/240 grain of atropin and 1/480 grain of strychnin to the drop was given. The initial dose was one drop a day, increased one drop daily until symptoms of the physiologic action of atropin or strychnin appeared or the enuresis ceased. In a few cases the medicine was given after supper only; in some after dinner and after supper; but in the majority of cases, three times a day, with the largest dose always in the evening. On this treatment 67 out of 90 cases recovered, almost 75%; in 53 cases recovery is known to have been permanent of the 67 cured; 37 followed the administration of tincture of belladonna, and 22 the administration of the atropin-strychnin mixture, in doses varying from one drop to 33 drops (atropin 1/7 grain and strychnin 1/14 grain). In the last case no physiologic symptoms followed the massive doses. They conclude that this routine method is of decided value in enuresis.

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**Menorrhagia:** F. H. Davenport, in the *International Clinics*, 14th series, Vol. III, states that in his experience only

four drugs have much of any claim to consideration in the treatment of menorrhagia, and his conclusions on the subject are as follows: Ergot acts upon unstriped muscular fiber to cause contractions; it is therefore of value in cases in which it is important to bring about a contraction of the uterine muscular tissue. This is necessary in fibroids which are situated in the substance of the uterus itself (so-called interstitial) or projecting toward the inner uterine wall. It is also of value in menorrhagia accom-

panying subinvolution of the uterus, when we have a large heavy succulent organ which has failed to return to its normal size after parturition. In all these cases ergot is a drug of value. The fluid extract may be employed, provided it does not upset the digestion, in doses of from 20 to 30 minims, three times a day. Sometimes it will be found that ergot in pills of from two to four grains (0.13 to 0.25 gram) each are better borne, and when the stomach is easily upset the administration of ergotin subcutaneously may be substituted. Hydrastis he believes to be of the greatest value in the memorrhagia due to endometritis. It should be given in the form of the fluid extract, one-half to one teaspoonful doses in water after meals, and at bedtime, increasing to a teaspoonful (five cubic centimeters) if the flow is profuse. It will have a more satisfactory effect if its use is kept up during the interval between the periods of flowing. Gallic acid is very efficient while the flow is actually in progress, here excelling either ergot or hydrastis. He gives it in five grain (0.3 gram) doses in capsules every three to six hours. Strychnin seems to him of considerable value. It should be given in doses of one-fourth to one-half grain (0.015 to 0.03) several times daily during the flowing.

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**Scarlet Fever:** A. Leibert, in the *New York and Philadelphia Medical Journal* for December 17, asserts that we can destroy the streptococci in scarlatinal throat and skin before they can enter blood and the agent on which he relies is ichthylol. During the last 10 years he has used inunctions with five and 10% ichtyol lanolin ointment twice or four times daily, into the entire skin in every case of scarlet fever. Swelling and itching are hereby diminished and later on the almost entire absence of desquamation, even in severe cases, proved that the inflammation of the skin had been actually reduced. The ointment must be well rubbed into the skin. Furthermore, these inunctions aid in preventing contagion. The most dreaded complication of scarlet fever is streptococcic pharyngitis. After trying other solutions including ichthylol without decided effect, he began about four years ago to disinfect the nasopharynx and pharynx with a 50% resorcin alcohol solution, as soon as exudate began to show itself in the throat. The patient is placed upright on the lap of the nurse as for intubation, the wrists held down and the head held firmly by a second attendant standing behind. A plug of absorbent cotton wound around a curved applicator and dipped into this solution is quickly introduced over the handle of a tablespoon into the nasopharynx on one side of the uvula, left there a few seconds and then withdrawn. A second application is made on the other side. These applications should be made once daily in early and mild cases of scarlatinal sore throat; twice daily in more advanced cases; and every two to four hours in far advanced cases, where they can yet save the patient in some instances. This energetic treatment is absolutely harmless, and can be employed in infants as well as in adults

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**Sodium Glycocholate:** Hubert Richardson, in the *Virginia Medical Semi-Monthly*, states that the treatment of gallstones is to supply sufficient bile salts to hold the cholesterol in solution and that the administration of the glycocholate of soda over a lengthened period will often dissolve small stones already formed and will always prevent their formation. It is advisable that any patient who has been operated

upon should take glycocholate of soda at frequent intervals to insure against the return of the trouble. Hepatic troubles are constant with high livers, and alcoholics, and also among those of sedentary habits, the liver being overworked to begin with, while want of exercise causes a deficient circulation and consequent congestion of the organ. In these cases, he has found the glycocholate of soda mass of great service, apparently acting as a purge to the organ. In diabetic diet, where carbohydrates are reduced to a minimum and fats given as a substitute, the administration of the glycocholate is a great assistance. In several instances the repugnance of the patient to the large quantities of butter, oil and fat prescribed in the diet was overcome after a few days' treatment. In chronic constipation the drug is often of great service, as many of these patients have the purgative habit which diminishes the quantity of bile. In all cases in which the liver is infected as in malaria, and in the convalescence from typhoid fever, the drug is a very valuable accessory to other treatment, the yellow icteroid skin clearing up and the assimilation of food increasing. It is rarely necessary to give more than five grains or at the most 10 grains, t. i. d. less than five grains is not of much use except over long periods, and preferably it should be given in capsules with magnesium oxid.

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**Leukemia:** In *American Medicine*, for December 24, George Dock concludes concerning the use of the Röntgen

rays in leukemia, that under treatment with Röntgen rays some cases of leukemia undergo marked changes for the better. The leucocytes fall to normal numbers and sometimes show no more pathologic cells; the red blood-corpuscles improve; the enlarged spleen and lymphatic glands resume normal proportions; the general health seems restored. In some cases the effects are imperfect. In no case has observation been carried out long enough to speak of cure, and in several cases death has occurred while the symptoms seemed to indicate improvement. The mode of action is not known, and at present the improvement must be considered functional, and not affecting the original cause, nor in a permanent way the histology of the disease. Though the treatment seems a functional one, it is possible that treatment in very early stages may be more effective than it has hitherto been. Röntgen ray treatment of leukemia is dangerous on account of the usual risk of dermatitis and burns, but probably also on account of toxic processes as yet impossible to explain. No stronger claims can be made for it than can be made for arsenic and certain serums and bacterial toxic substances, but it may prove more certain in its action than arsenic, and can be more readily applied in practice than the injection methods. No special rules can be laid down at present for treatment with Röntgen rays. Great care should be taken to avoid burns. Methods should be as fully described as possible in each case; the blood should be carefully examined as fully and frequently as possible, and if possible urine examination should be made to throw additional light upon the metabolic changes.

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**Gastric Ulcer:** Samuel W. Lambert, in the *American Journal of the Medical Sciences*, states that the two cardinal points in the cure of gastric ulcer are rest and milk diet. The rest cure for cases of gastric ulcer does not mean such an absolute isolation as is indicated for the more serious forms of neurasthenia. It is sufficient that

these patients stay in bed, and give up all business cares and worries. In addition to this general rest, a local rest for the stomach and ulcer itself is indicated, and as soon as the patient is settled in bed a period of absolute abstention from food by the stomach should be inaugurated. Nothing but water and pieces of ice should be swallowed. Nutrient enemata are undoubtedly a great assistance in keeping up the strength of the patient. Alcohol is not a necessary part of nutrient enemata, and should not be added except for some special therapeutic reason. It is wise to inject into the bowel a half pint of saline, each evening, an hour or so after the last nutrient enema, with the idea that the whole amount will be absorbed. During the night the rectal feeding should be omitted, the patient allowed to sleep, and the day's routine be resumed in the morning. Gastric feeding may be resumed in mild cases within four days, in severer ones it is necessary to wait a full week or more. The first food given should be peptonized milk in small doses at rather long intervals. After the patient has reached the point where he is on an exclusive stomach diet of peptonized milk the amount may be increased till he is taking two quarts or more daily. The next step is to reduce the degree of peptonization, and later the milk can be given raw, though modified in strength is necessary. During the third week cooked cereal gruels may be added to the milk as part of the diluent, and in the fourth week crust-free bread, butter and boiled egg may be added. One may add during the fifth week potatoes, rice, chicken and custard, and the final or sixth week, beef, mutton, cooked fruits and simple puddings. The patient is allowed to get out of bed in the fifth week and even earlier in mild cases.

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**Calcium Chlorid:** *The Medical World*, for December, calls attention to the hemostatic properties of calcium chlorid in the treatment of hemorrhage from bleeding piles, its use in this connection having been first mentioned by Boas, who has employed it for two years with success. He injects into the rectum 20 grams (ZV) of a 10% aqueous solution of calcium chlorid after the morning evacuation of the bowels, and in several cases repeats the injection on retiring. If the drug is pure, there is no pain or irritation. The treatment has no influence on the nodules, but the bleeding is checked and he reports 25 complete cures. In old and severe cases he advises continuing the injections for a month, and thereafter twice a week, resuming the daily injections on any symptoms of a return of the bleeding.

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**Brometone:** J. J. Kyle, in *Medicine* for September, states that for the past year he has been using a new drug, allied to the bromides but which is one of the higher alcohols. It is chemically tri-brom-tertiary-butyl alcohol, and is called, by its manufacturers, brometone. It occurs in fine white crystals, and can be dispensed either in capsules or powders. In cases in which we wish a sedative action, or in which we wish the nervous mechanism to receive rest and not to be simply drugged into insensibility, brometone does very well. It seems to produce a condition similar to physiologic rest, and its effects are not cumulative. Kyle is convinced that it is a valuable addition to the *materia medica*. It is well borne in all cases of gastric irritation with nausea and vomiting due to indulgence in alcohol or to gastric indigestion. Its marked sedative action in these cases may be due to a local anesthetic action or,

more probably, to the influence of the drug on the medulla. Brometone is especially indicated in cases of over-stimulation of the nerves in which the brain seems to be scintillating, due to excessive brain work. It also acts well in cases of asthenopia nervosa and congestive headache, the result of close application to work, as the result of congestion of the frontal sinuses, or acute congestion of any of the accessory sinuses. Following operations in the nose and throat, such as turbinectomy, cauterization, tonsillotomy and the like, patients frequently complain of severe headaches. In this class of cases Kyle has found brometone of service. Given in three grain capsules every three or four hours it promptly relieves the irritation and the nervous condition of the patient, and the headaches rapidly disappear.

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**Iodin:** W. S. Pugh, in *American Medicine* for October 15, states that he has been disappointed in the

newer antiseptics and germicides in the treatment of suppuration, and has had encouraging results with iodin. Many of the iodin compounds on the market are expensive, while pure iodin is relatively cheap. In infected wounds he applies the iodin, in the form of tincture, direct to the wound by means of a small swab made by twisting a piece of cotton around a tooth-pick. The power which this substance has of cleansing a wound filled with pus, the short time and the small amount required is somewhat surprising. He has used it in scalp wounds, ulcers of the leg, inguinal adenitis and vaginitis. Upon vaginal discharges, particularly those due to gonococci, iodin exerts a most favorable influence. The discharge in many cases ceases after a few swabbings of the cervix, and it is particularly of value in the so-called subacute stage. He strongly advises its use in all cases of suppuration.

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**Adrenalin:** M. Demay de Certaut, in the *American Journal of the Medical Sciences* (from *Journal de Medecine de Bordeaux*), recommends as an application to prolapsed hemorrhoids,

cocain hydrochlorid one-twentieth of a grain; adrenalin 1-1000 30 drops; water one ounce. The anal opening should be closed and a pledget of cotton saturated with the above solution applied and held in place by means of a rubber dressing. The application should be renewed every three hours until the pain has ceased. Under the influence of the adrenalin the congestion diminishes, the hemorrhage stops, the pain ceases, and the tumors become reducible. In cases of internal hemorrhoids an ointment of cocain hydrochlorid one-twentieth of a grain, adrenalin 1-1000 30 drops, vaseline one-half ounce will be found efficacious. Suppositories of like composition act well but are likely to cause a painful defacation. While this treatment is slow in action it is sure and lasting in its effects.

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**Scurvy:** In the *Medical News*, for June 4, W. F. Cheney states, that he believes that the most frequent

mistake in the diagnosis of scurvy in infants is to confound it with rheumatism, and that it is a disease in which proper treatment works a miracle. It has no tendency to spontaneous recovery, but when recognized and given the proper care, improvement is immediate, and cure is surprisingly rapid. Just three measures are indicated for the cure of scurvy: (1) Discontinue proprietary food and substitute for it a mixture of fresh milk diluted with water or with oatmeal water. (2) Give fresh orange juice in

dose of one or two teaspoonfuls three times a day. It is surprising how babies with scurvy take to this and seem to enjoy it. (2) Give freshly expressed beef juice, squeezed from rare steak, in dose of one or two teaspoonfuls three times a day. Give no drugs at all.

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**Venereal Warts:** In the *American Journal of the Medical Societies* for November, C. W. G. Rohrer summarizes the medical treatment of venereal warts. Dusting with calomel alone is one of the simplest methods of treatment. A dry dusting powder composed of calomel and bismuth—calomel, one part, bismuth, two parts—will perhaps be more efficacious. Dusting the parts with lactic acid, not frequently causes their rapid disappearance. Zinc oxide and bismuth, equal parts, has its advocates. A 10% salicylic acid ointment may prove useful. Resorcin sometimes supersedes all other local applications. It is prescribed at the hospital clinic:

R Resorcin ..... grs. xv  
Vaseline ..... 1 ounce.  
Ung-Sig. Apply locally, after carefully cleansing the parts.

White and Martin and Keys recommend:

R Acid salicylic ..... 1 dram  
Acid acetic ..... 1 ounce  
Sig. Apply with a brush once daily.

This combination forms a curd-like mixture, and will generally remove warts within 12 to 24 hours. A sufficient quantity of the dregs should be deposited upon the growth to cover their entire surface and allowed to dry. One or two applications are usually sufficient. Relapse is said not to occur after this treatment. In the acuminate form, cleansing, drying and dusting with powdered savin, acts as a direct specific (Power). Valentine recommends that the mass be touched three times daily with ferric chlorid. The shrunken, shrivelled portions should then be curetted and the application repeated until the base is reached. This must be thoroughly curetted, and its bleeding arrested with cotton pledgets soaked in 5% solution of antipyrin.

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### Academy of Medicine of Cleveland

The twenty-first regular meeting of the Clinical and Pathological Section was held Friday, January 6, at the Medical Library, with Dr Wm. E. Lower in the chair. Dr Merriam presented a case of cretinism which had improved under the administration of thyroid extract. Drs Hamann and Ehret discussed the case. Dr Fess showed a case of rickets which had sustained three spontaneous fractures recognized at a later date by the X-ray. Drs Ehret, Crumrine and Wehr discussed the case. Dr Wm. E. Bruner read a paper entitled "Report of a Case of Generalized Word Blindness." Drs Belkowski and Sherman took part in the discussion. Dr C. A. Hamann presented a "Report of a Case of Intestinal Obstruction Due to Gall-Stones." Discussed by Drs Scott, Burns and Belkowski. Dr H. L. Sanford followed with a paper on the "Report of a Case of Suppurative Cholecystitis with Perforation." Drs Burns, Scott, Doolittle, Briggs, Hanson and House discussed the paper. Dr C. G. Flotte read

a paper upon the "Report of an Obscure Case of Perinephric Abscess," which was discussed by Drs Sanford, Stepp, House, Bunts and Powell. The attendance was 90, the largest in the history of the Section. An informal smoker concluded the evening.

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The Experimental Medicine Section met Friday evening, January 13, at the Medical Library. Dr Wm. T. Howard, Jr., in the chair. Dr E. D. Brown presented a paper upon "Pharmacological Experiments with Thorium." Dr S. Peskind read a paper upon "The Structure of Red Blood Corpuscles."

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The twenty-third meeting of the Academy of Medicine of Cleveland was held Friday evening, January 20, at the Chamber of Commerce. The President, Dr C. J. Aldrich, was in the chair. Dr F. E. Bunts read "A Report of a Case of Cæsarean Section Following Ventral Fixation." The paper was discussed by Drs Robb, Powell, Humiston, Jones, Williams and House. Dr Richard H. Harte, of Philadelphia, presented a paper entitled "Some Observations on Intestinal Perforation Following Typhoid Fever." Drs Lowman, Sihler, Briggs, Rosewater, Crile and Robb took part in the discussion which was closed by Dr Harte. Both of these papers will appear shortly in *THE JOURNAL*.

Dr Harte conducted an extremely interesting clinic at Lakeside Hospital Saturday morning, January 21.

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The Ophthalmological and Oto-Laryngological Section held their tenth regular meeting at the Medical Library, January 27.

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## Book Reviews

A Text-Book of Pathology. By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia: Pathologist to the Medico-Chirurgical Hospital, Philadelphia. Handsome octavo volume of 818 pages, with 350 illustrations, a number in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, \$5.00, net; sheep or half morocco, \$6.00, net.

This book, which is in its first edition, is well gotten up, with good print, and illustrations which are for the most part satisfactory and explanatory of the text. There are certain errors, such as the use of the same illustrations for anemic and for hemorrhagic infarct of the spleen and the placing of an illustration intended to explain inflammation in the text devoted to immunity. The first part of the section on general pathology is given up to a very succinct and complete discussion of the pathology of nutrition, digestion, metabolism, secretions, etc., probably the best in the books now in use. Bacteriology is not given an undue share as so commonly seen in text-books of pathology, but after a brief general discussion the bacteria bearing definite relations to certain diseases are taken up in connection with those diseases and put in small print. The section on immunity is very inadequate, considering the amount of interest and work on this subject at the present time. In the section on special pathology the organs are taken up in groups and the lesions fully explained. There is a chapter

on the blood, part of which belongs more properly in a work on clinical microscopy. In mention of the blood in variola no mention of the characteristic monoleucocytosis is made, and no mention is made anywhere of the recent articles on the etiology of variola and vaccinia. The book is in general very satisfactory and is easy to read, both on account of the type and the form of construction.

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A Text-Book of Physiology. By Isaac Ott, A. M., M. D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia. With 137 illustrations. Royal octavo, 563 pages. Bound in extra cloth. Price, \$3.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

The author has had an experience of a number of years in teaching physiology and has embodied his lectures in book form. This has been done by many other teachers and accounts for the multiplicity of text-books now on the market. The work is intended for students and evidently for those who are not expected to receive practical laboratory work, the details of such procedures having been omitted as a rule. Some of the more technical subjects, such as electrical physiology, have been but briefly considered. The work is well up to date in most respects but it seems unfortunate that more space is not devoted to such an important subject as the specific properties of serum. There is a vast amount of work now being done upon this question and it holds forth a promise of great results. Even if our knowledge of it is at present incomplete, the medical student of today should at least be well introduced to such a live topic.

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Clinical Urology. By Alfred C. Croftan, Prof. of Medicine, Chicago Post Graduate Medical College and Hospital, etc. Illustrated. William Wood & Co., New York, 1904.

In the rapidly multiplying number of books upon this subject there has not appeared, so far as the reviewer is aware, a single volume which covers so important a subject in the way it has been accomplished in this work. As the author states in his preface: "Its purpose is to describe the borderland that lies between the laboratory and the clinic." The busy practitioner is too often given the mere statement of facts without any adequate explanation of their physiological and pathological relationship, and it is this gap, all too prominent in many of our clinical text-books upon this subject, which Dr Croftan has so satisfactorily endeavored to meet.

The arrangement of the various chapters covers the entire field in a satisfactory way. Chapter I takes up the albumins of the urine, and is a clear statement of our present knowledge of this still somewhat complex subject. It is, in our judgment, unfortunate that the author uses the term "physiological albuminuria," which is the first heading that meets the eye, though he states plainly that he considers this term a misnomer. Would it not be better to drop this term altogether from our nomenclature? The various tests which have proved themselves satisfactory for determination of the different albumins and albumoses, and the significance of these bodies in the urine, are all clearly explained. Among the other chapters of

especial interest, that upon the acetone bodies of the urine is an extremely satisfactory resume of this subject, as is also the chapter devoted to a consideration of the blood- and bile-pigments.

There is the usual exhaustive chapter devoted to urinary sediments and, finally, a full consideration of the methods at present in vogue for determining the renal function. In every way we consider this an excellent work, designed to fill a definite link in the chain of our knowledge of this immense subject, and a work of really great value to the student and, perhaps, even more so to the busy physician, who can turn to it for reference with confident assurance that the point he wishes enlightenment upon is clearly explained.

There are a few minor typographical errors—two occurring close together on page 124—but apart from these minor omissions, which in no way detract from the real value of the work, it is well printed on good paper and includes a satisfactory index.

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Hare's Practical Therapeutics. A Text-Book of Practical Therapeutics; With Especial Reference to the Application of Remedial Measures to Disease and the Employment upon a Rational Basis. By Hobart Amory Hare, M. D., Professor of Therapeutics and *Materia Medica* in the Jefferson Medical College of Philadelphia. With special chapters by Drs. G. E. de Schweinitz, Edward Martin and Barton C. Hirst. New (10th) edition, much enlarged, thoroughly revised and largely re-written. Octavo, 908 pages, with 113 engravings and four full-page colored plates. Cloth, \$4.00, net; leather, \$5.00, net; half morocco, \$5.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York. 1904.

This work is already so well known that a review of it seems superfluous. It is one of the most widely known medical books published and is now in its tenth edition. Former editions were reviewed but recently in these pages. The author has revised the subject and the present work show numerous additions and alterations so as to bring it up to date. Not only is it of great value to the practitioner but it is so clearly written and the therapeutic measures in various conditions are so logically explained that it is a most valuable work for the undergraduate as well.

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Text-Book of Nervous Diseases and Psychiatry for the Use of Students and Practitioners of Medicine, by Charles L. Dana, A. M., M. D., Professor of Nervous Diseases and (*ad interim*) of Mental Diseases in Cornell University Medical College, etc. Sixth revised and enlarged edition. Illustrated by 244 engravings and three plates in black and colors. New York: William Wood & Co. 1904.

Dr Dana's work on neurology has been long and deservedly one of the most popular works on this subject by American authors. The continued favor with which it is regarded by student and practitioner is manifested in the number of editions which have been demanded. The text has been revised and in the present, the sixth edition, we have a new departure in the edition of twelve chapters on psychiatry. Although presented in small compass, adequate descriptions of the principal types of insanity are to be found in the work. We have read with especial interest

the chapter on the minor psychosis since Dr Dana considers it of especial importance to insist that one may have a psychosis and yet not be in any **sense** insane. A position which many will welcome and approve and one of great importance with reference to the plea of insanity in criminal trials.

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The Perpetual Visiting and Pocket Reference Book, including information in emergencies from standard authors. Dios Chemical Co., Publishers, St. Louis, Mo.

This is a compact pocket reference book with various tables of doses, antidotes and a list of suggestive treatment for clinical emergencies, which, with its pages for record, comprises a very practical book for record

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Hyde and Montgomery on the Skin. A Practical Treatise on Diseases of the Skin, for the use of Students and Practitioners. By James Nevins Hyde, M. D., Professor of Dermatology and Venereal Diseases, and Frank H. Montgomery, Associate Professor of Dermatology and Venereal Diseases in Rush Medical College, Chicago. Seventh and revised edition. In one octavo volume of 938 pages, with 107 engravings and 35 plates in colors and monochrome. Cloth, \$4.50, net; leather, \$5.50, net. Lea Brothers & Co., Philadelphia and New York, 1904.

The work of Hyde and Montgomery on diseases of the skin has won a deservedly high position in the literature of dermatology, and this, which is the seventh edition, has been subjected in every part to a careful revision of both text and illustrations. A number of new subjects have been introduced, among which we may mention radiotherapy and phototherapy. The object which has been kept in view in the selection of references for the bibliography deserves special mention and commendation, it has been so planned that the references for each subject shall be found in readily accessible treatises or periodicals and shall furnish a key to the complete bibliography of each subject. It may be highly recommended as a practical and reference hand-book on its subject.

## Medical News

Leroy Pence, a native of Ridge Township, has been elected President of the Board of Health of Lima.

A. V. Smith represented the Canton Board of Health at the annual meeting of the State and local health organizations, held in Columbus the latter part of January.

The Sandusky County Medical Association held its bimonthly meeting in the City Hall, January 6. Dr Stevens, of Helena, gave an interesting talk on "Acute Rheumatism."

The Lorain County Medical Society met January 10, at St. Joseph's Hospital, Lorain. Dr C. H. Browning, of Oberlin, read a paper on "A Few Points in the Treatment of Bronchopneumonia," and Dr W. F. Dager, of Lorain, on "X-Ray Therapy."

C. O. Probst, Secretary of the State Board of Health, and Superintendent H. C. Eyman, of the Massillon State Hospital, attended the annual meeting of the American Public Health Association, held at Havana, January 9-12. Central and Northern Ohio were well represented.

The last regular meeting of the Green County Medical Society was held Thursday, January 5, 1905, at 10 a. m., in their room in the Court House. The paper of the day was by Dr L. M. Jones, of Jamestown: "Nuclein, Its Therapeutic Value." The officers for 1905 were duly installed.

The Northwestern Ohio Medical Association have elected officers for the ensuing year as follows: President, T. M. Gehrett, Deshler; First Vicepresident, F. L. Bates, Lima; Second Vice-president, A. F. Cook, Sandusky; Secretary, A. S. Rudy, Lima; Treasurer, W. S. Phillips, Belle Center.

The Butler County Medical Society has reorganized by electing Dr A. T. Smedley, of Hamilton, President; Dr T. A. Dickey, of Middletown, Dr H. H. Smith, of Oxford, and Dr C. W. Hodges, of Hamilton, Vicepresidents; Dr T. H. French, of Hamilton, Secretary; and Dr J. E. Torrence, of Hamilton, Treasurer.

The seventh annual meeting and banquet of the Lakeside Hospital Alumni Association was held on the evening of January 15 at Lakeside Hospital. The following officers were elected for the ensuing year: President, Dr Eliot Alden; Vicepresident, Dr W. Abbott; Secretary and Treasurer, Dr Hoskins. Dr J. McHenry was appointed to serve on the executive committee.

There was a very large and enthusiastic meeting of the medical profession of Licking County, held at Newark, January 3, to ratify the "fee bill" adopted by the Licking County Medical Society at its last meeting. The bill was read in all its details and was discussed at length by the physicians present and, with some slight modifications, was adopted unanimously. This action provides for a uniform charge for medical services. The meeting was the largest ever held in Licking County.

The first meeting of the Lake County Medical Society for the new year was held in the parlors of the Parmly Hotel, on Monday evening, January 9. Dr Thomas Charles Martin, of Cleveland, the councilor of the district, addressed the Society on "A Few of the Achievements of Our Organization." The newly elected officers are making an effort to interest every physician in the county. It is said that the program for the monthly meeting during the year will include the most able and interesting men of science obtainable.

The Canton Medical Society held its annual meeting January 6, at which Dr E. J. March was chosen president for the year 1905. Others officers elected are: Drs G. A. Kelly, C. F. Schlits, Recording Secretaries; L. D. Stoner, Correspondng Secretary; H. P. Pomerene, W. A. McConkey and G. F. Zinninger, Censors. "The Diagnosis of Acute Exanthemata," was the subject of a paper read by the retiring president, Dr D. F. Bunker. The Secretary and Treasurer read their annual repots, disclosing the presence of a substantial balance in the treasury. The membership of the Society is 85.

The State Board of Medical Examination and Registration reorganized by electing Dr S. B. McGavran, of Cadiz, President; Dr H. H. Baxter, of Cleveland, Vicepresident; Dr Frank Winders, of Columbus, Secretary; and Dr S. M. Sherman, of Columbus, Treasurer. The following were announced as the successful applicants from Cleveland for certificates to practice medicine who were examined at the last meeting of the Board: William M. Powell, Carl C. Mann, Franklin W. Dumas, Lloyd Lyston Jones, George Upton Bennett, Frank Hudson Barr, Fred. H. Mersfelder, William J. Abbott, Caroline McQueston, Junius Harding McHenry and Rosa Gould Barr.

The first meeting of the sixth councilor district of the Ohio Medical Association was held at Canton, during the last week in December. Dr T. Clarke Miller, councilor for the district, presided at the meeting and under his direction the following pro-

gram was carried out: Election of chairman and secretary; miscellaneous business; "Why People, Apparently Intelligent, Fall Easy Prey to the Medical Fads," Dr E. J. March, Canton; "Causes, Prevention and Treatment of Typhoid Fever," Dr J. H. Stoll, Wooster; "Mucous Colitis," Dr John M. Burns, Mansfield; "Gall Stones," Dr Frank E. Bunts, Cleveland; a paper, subject not given, Dr J. E. Cone, Youngstown; "Farther Experience in the Treatment of Diabetes Mellitus," Dr John P. Sawyer, Cleveland; "Medical Inspection of Public Schools," Dr William S. Chase, Akron; "Unrecognized Phases of Insanity," Dr H. C. Eyman, Massillon, Superintendent Massillon State Hospital.

A representative attendance of the members of the North Central Ohio Medical Society and of its guests, members of the Crawford County Medical Society, were present at the ninety-second quarterly meeting of the former organization held December 31, at Galion. The program was as follows: "Tubercular Peritonitis," Dr A. M. Crane, Marion; "Neuroses, with which are Associated Symptoms from the Digestive Organs, Heart and Aorta," Dr C. F. Hoover, Cleveland; "Management of Pelvic Inflammation," Dr Clovis M. Taylor, Columbus; "Gall Stones," Dr Frank E. Bunts, Cleveland. The Society adopted a resolution favoring the establishment of a tubercular sanitarium near Crestline and Mansfield and favoring Ralston Heights, the excellent property midway between the two towns, as the site for the new institution. The next, which is the annual meeting, with election of officers, will be held at Mansfield in March.

The Northern Tri-State Medical Association held its semi-annual meeting in Toledo, January 10. The morning session of the Association was devoted to the reading of papers and discussing of problems confronting the medical profession today. Dr A. W. Chase, of Adrian, led with a paper on "Accidental Surgical Cases." Dr A. W. Crane, of Kalamazoo, opened the afternoon session with a talk of "Some of the Clinical Results of High Frequency Currents." Toledo doctors who read papers and led discussions were: Drs Walker, Jacobson, Hansecamp, Wright, Dickey, Longfellow, Snyder and Gillette. Among the well-known visiting physicians in attendance were: Dr Hal C. Wyman, Detroit; G. Frank Lydston, Chicago; H. O. Walker, Detroit; A. E. Chase, Adrian; Geo. T. McCoy, Indiana; Dudley P. Allen, Cleveland; Miles F. Porter, Fort Wayne, and Victor C. Vaughn, Dean of the Medical College of the University of Michigan. The meeting closed with a banquet given to the Association at the St. Charles, by the Toledo Academy of Medicine.

At the annual meeting of the Board of Health held in Columbus, January 27 and 28, the following program was presented: January 27, 10:30 a. m.—Address by President Dr Frank Warner, Columbus; "The Laboratory in the Diagnosis of Diphtheria," Mr E. G. Horton, bacteriologist State Board of Health, Columbus; discussion; question box. 1:45 p. m.—"Quarantine of Observation in Prevention of Smallpox," Dr H. M. Platter, inspector of infectious diseases, Columbus; discussion; "The Sewage Testing Station at Columbus," Mr George A. Johnson, engineer in charge, Columbus; visit to the sewage testing station. 7:45 p. m.—"Filtration of Public Water-Supplies," Mr R. W. Pratt, engineer State Board of Health, Columbus; discussion; "The Relation of the Medical Profession to the Restriction of Tuberculosis," Dr S. P. Wise, ex-member State Board of Health, Millersburg; discussion; "Disposal of Garbage and Refuse," Col. W. F. Morse, sanitary engineer, New York. January 28, 9 a. m.—"The Conflict Among Legislative Bodies a Hindrance to Sanitation," Dr Mark Millikin, health officer, Hamilton; discussion; "The Sanitary Organization of 1905," Dr J. W. Clemmer, member Board of Health, Columbus; discussion; "Should We Have County Health Officers?" Dr F. E. Kitzmiller, health officer, Piqua; discussion; question box; adjournment.

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## Deaths

David J. Snyder, of Scio, died recently at the age of 64.

Rev. G. G. Tressel, a prominent physician of Columbus, died at his home, December 27.

B. J. C. Armstrong, of Smithfield, who was struck by a train at Dillonvale, December 16, died at the Gill Hospital, December 22.

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## A Clinical Report of Nine Cases of Diabetes Insipidus

BY THOMAS B. FUTCHER, M. B. (Tor.),

Associate Professor of Medicine, the Johns Hopkins University, Baltimore, Md.

I find that the subject of diabetes insipidus has never been presented before this Association. This circumstance, together with the fact that I am privileged to report the clinical records of nine cases of this disease, a number of which show features of special interest, is my justification for bringing up the subject for consideration today.

Three names are intimately associated with the problem of differentiating the various forms of polyuria. Thomas Willis,<sup>1</sup> in 1674, first recognized a distinction between a saccharine and a non-saccharine diabetes, by discovering the fact that in certain cases of polyuria the urine had a sweet taste. Johann Peter Frank,<sup>2</sup> in 1794, first gave us a definition for diabetes insipidus when he described it as a long-continued, abnormally increased secretion of non-saccharine urine, which is not caused by a diseased condition of the kidneys. He distinguishes two forms of diabetes, a *diabetes insipidus or spurious* and a *diabetes mellitus or verus*. Robert Willis,<sup>3</sup> in 1838, proposed a classification of cases of diabetes insipidus according to the amount of solids in the urine. He was led to believe that there were three fairly distinct groups—the hydruria, azoturia, and anazoturia cases. This classification is now practically abandoned, and Senator holds that the various forms do not represent independent diseased processes, but merely various stages of one and the same affection, the amount of solids excreted being dependent on the condition of the digestive tract.

### EXPERIMENTAL POLYURIA

Before proceeding to a consideration of the disease it may contribute to our understanding of the manner in which certain

pathologic lesions, occasionally found in this affection, cause the polyuria, by briefly reviewing the work that has been done on experimental polyuria in animals.

In 1849 Claude Bernard,<sup>4</sup> in experimenting on animals, found that injury of a point in the floor of the fourth ventricle between the centers of the pneumogastric and auditory nerves caused transitory glycosuria—the so-called diabetic center. What is more important in the present consideration, however, is the fact that he found that injury of a point a little above this produced simple polyuria. This observation threw much new light on the etiology of many cases of diabetes insipidus. Claude Bernard studied the physiology of urinary secretion further, and his results may be summarized as follows:

1. Stimulation of the vagus in dogs has no effect on the color of the renal veins or on the secretion of urine. In rabbits, on the other hand, three notable results follow, viz., a dilatation and increased redness of the renal veins and an increase in the urinary secretion.

2. Section of the greater splanchnic nerve causes, in dogs, an immediate increase in the amount of urine secreted. This increased functional activity can be stopped by stimulating the peripheral end of the cut splanchnic with the galvanic current. In rabbits, section of the greater splanchnic causes the renal veins to contract and assume a darker red color. Stimulation of the peripheral end of the cut splanchnic nerve had no result.

3. In rabbits at least, section of one of the greater splanchnics influence only one kidney, viz., the one on the same side, whereas each of the vagi was found to influence both kidneys.

4. The splanchnic and vagi are antagnostic in their action on the renal vessels in rabbits.

Claude Bernard's conclusions, although not confirmed in every detail by subsequent experiments, really formed the foundation for all future work. The researches of Eckhard,<sup>5</sup> of Giessen, for the most part confirmatory, while demonstrating some errors, have added much to our knowledge concerning the effects of nervous influences on urinary secretion, and have filled up many previously existing gaps. His results embrace practically all that we know at present on this point, and may be summarized as follows:

1. Wounds of the floor of the fourth ventricle frequently produce polyuria, but the lesions do not always involve the point already demonstrated by Bernard. In rabbits, at least, there is no definite point in the floor of the fourth ventricle, injury of which will constantly produce a pure "hydruria."

2. The vagus has absolutely no influence on the secretion of urine in dogs or rabbits.

3. Cutting the greater splanchnic nerve in dogs produces an immediate increase in the urinary secretion, the amount being about four times that normally eliminated. Stimulation of the peripheral end of the cut splanchnic stops the increased elimination. The greater splanchnic is therefore the vasomotor and special secretory nerve of the kidneys in dogs. In rabbits the splanchincs have absolutely no influence on the urine secretion.

4. In dogs each splanchnic supplies branches to only one kidney, viz., to the one on the corresponding side, and, after cutting the nerve, more urine is secreted only by that kidney which is on the same side as the cut nerve.

5. All other macroscopically recognizable sympathetic nerves going to the kidney, as well as their anastomoses with the phrenic and vagus nerves, have no influence on the urine secretion.

6. Only the highest thoracic sympathetic ganglion and those fine nerve fibrils which pass in the thoracic cavity to the aorta and surround it, as well as other arteries, including those of the kidney, as a fine network, appear to influence the urine elimination. These nerves, however, are so fine that their influence cannot be determined by experimenting upon them directly, so that conclusions regarding their action can only be obtained by eliminating their function through section of the spinal cord.

7. Section of the spinal cord at the level of the sixth or seventh cervical vertebra, as well as at higher levels, produce without exception an immediate and persistent suppression of the urine. Sections below this level give less certain and less prompt results, whereas sections of the cord below the twelfth dorsal vertebra have practically no effect whatever.

8. The diminished urine secretion following section of the cord is not the result of diminished blood pressure.

9. From the results of section of the cord at the above indicated level, it is apparent that the center regulating the urine secretion is above this point; from the effect of medullary puncture it is quite certain that the center is in the medulla or higher up.

10. It may be concluded, then, that the nerve fibers supplying the kidneys pass from the medulla in the spinal cord to the level of the sixth or seventh cervical vertebra, where they leave the cord in the uppermost thoracic nerves, whence they pass along the walls of the aorta and renal arteries to the kidneys.

11. There are a few poisons which produce a polyuria similar to that following Bernard's medullary puncture; among such poisons are curare and carbon monoxid.

12. In addition to Bernard's center there are other areas of the brain, injury of which produces a temporary polyuria. Eckhard demonstrated that temporary polyuria followed:

(a) After mechanical injury of the veriform process of the middle lobe of the cerebellum, in which experiment, as he emphasizes, the blood pressure remains uninfluenced. The polyuria is most readily produced by injury of the most posterior of the convolutions of the middle lobe of the cerebellum seen from above. To this convolution Eckhard suggested the name "lobus hydruricus et diabeticus," "diabeticus" because the polyuria was frequently accompanied by glycosuria.

(b) After chemical irritation of the same point with chlorid of iron, acetic acid, caustic potash, or silver nitrate.

(c) After electrical irritation of the same.

(d) After injury of the posterior lobe of the rabbit's brain (the lobe which lies in the concavity of the temporal bone), the lesion requiring to be comparatively deep, however.

The results under Section 12 were obtained only with rabbits, the experiments being entirely negative with dogs.

Kahler,<sup>6</sup> later on, in experimenting on rabbits, was able to produce a permanent polyuria in animals closely resembling diabetes insipidus in man. By injecting minute quantities of concentrated silver nitrate solution into various parts of the brain he could cause a polyuria accompanied by polydipsia, both lasting several weeks. Microscopic examination of the involved brain areas were afterwards made in order to determine exactly the localization and extent of the lesion. Kahler's results in brief were as follows:

1. One can produce a permanent polyuria in rabbits by destruction of minute areas of the cerebellum and medulla oblongata.

Whereas injury of the middle lobe of the cerebellum produces a more or less temporary polyuria, wounds of the medulla oblongata, on the other hand, are followed by a permanent polyuria.

3. The corpus trapezoides of the pons and the lateral part of the exposed portion of the medulla oblongata are the areas injury of which is most likely to produce a permanent polyuria.

4. Destruction of the inner part of the cerebellum with Dieter's nucleus and its caudal processes causes practically always a permanent polyuria.

5. Experimentally produced permanent polyuria must be regarded as an irritation phenomenon.

6. The portions of the rabbit's brain designated in Section 3 correspond in the human brain with the area of the pons where the sixth and seventh cranial nerves make their exit from the brain.

One would look for a persistent polyuria, then, in human beings when the lateral portion of the distal part of the pons and the proximal portion of the medulla are involved in some lesion.

From the experimental work of these various observers it would appear that a polyuria in rabbits and dogs can be produced by injuries in the floor of the fourth ventricle, by lesions in different parts of the middle lobe of the cerebellum and by injuries to the posterior portion of the pons. From analogy we would rather expect to find polyuria in man if brain lesions in these situations existed. One can easily see how tumors situated toward the posterior part of the base of the brain, as well as basilar meningitis, of syphilitic or other origin, could possibly produce a permanent polyuria.

There are still many points in dispute concerning the method of the production of polyuria in brain lesions. Is the polyuria the result of the action on special secretory nerves in the kidney? Or is it a question of blood pressure effect? Eckhard believed that he had proved the existence of special secretory nerves, but all the leading modern physiologists deny the existence of such nerves, and believe that the polyuria is a question of increased blood pressure. Eckhard claimed, however, that in his experiments the blood pressure is not increased. Whereas, the balance of opinion is in favor of the polyuria being due to increased blood pressure in the renal vessels, the question is still a more or less open one.

The possible effect on the urinary secretion of remote lesions of the nervous system was clearly stated by Ralfe<sup>7</sup> as follows: "It is interesting to trace the course of the nerves forming the renal plexus, as irritation from eccentric or distant sources may play a part in inhibiting the renal nerves. Thus the nerves forming the renal plexus are derived chiefly from the solar plexus; it is probable that branches of these nerves enter the kidney by way of the renal plexus. Splanchnics also send branches direct to the renal plexus, and the left vagus sends some fibres to the left kidney. They contain medullated and non-medullated fibres and Krause has traced the latter as far as the apices of the papillæ. Their mode of termination is unknown. Physiologically, vaso-

constrictor, vasodilator and sensory nerves have been ascertained. The connection through the vagus brings us into range with the medulla oblongata and with many organs susceptible of tubercular or syphilitic growths, or of sudden shock, such as chill. The solar plexus may propagate the effect of abdominal new-growths or aneurysms.

*Incidence:* Diabetes insipidus belongs to the rarer of the medical diseases. Of the nine cases here reported seven were treated at the Johns Hopkins Hospital—six in Dr Osler's medical wards and one in the medical department of the dispensary. The other two were private patients. One of these, Case I, was a patient of Dr Thayer, who asked me to look after the child during an acute febrile upset, in his absence from the city, and to whom I am indebted for being able to include the case in the present series.

These seven cases comprise all the cases of diabetes insipidus that have been treated in all the departments of the hospital, both in the wards and in the dispensary, since it was opened on May 15, 1889. In other words, there were seven cases out of a total of 403,535 patients treated in the hospital and dispensary up to May 1, 1904, making 0.001 per cent. During this time there were 17,042 admissions to the medical wards, six of which were diabetes insipidus cases, or 0.03 per cent. of the medical cases. Among 113,600 patients treated at the Charité, Berlin, from 1877 to 1896, there were 55 cases, or 0.048 per cent. Eichorst observed seven cases, or 0.02 per cent., among a total of 35,942 patients at the Zürich Hospital.

#### CLINICAL CLASSIFICATION OF DIABETES INSIPIDUS

It seems best at this point, before taking up the etiology, to refer to the clinical classification. Two forms are generally recognized according to the etiology:

1. *Primary or Idiopathic Cases:* This group includes the cases in which there is no evident organic basis for the disease.

2. *Secondary or Symptomatic Cases:* These include the cases in which there is evidence of organic disease either in the brain or elsewhere, the lesion being considered the cause of the diabetic symptoms. Gerhardt includes in this group also those instances where the disease occurs in psychoses and in hysteria or neurasthenia. He states that it is very difficult to draw a definite line between certain cases in the two groups.

In the series here reported four belonged to the idiopathic and five to the secondary or symptomatic group. In four of these

five cases syphilis was the probable cause of the disease, and in all of them there were very marked evidences of cerebral lues.

Stoermer,<sup>8</sup> in his monograph on the disease, gives the following useful classification:

1. Diseases of the central and symptomatic nervous systems where actual anatomical changes occur.

This group includes the cases occurring

(a) After trauma.

(b) After diseases of the brain and spinal cord, such as brain tumors, apoplexy, cerebral syphilis, hydrocephalus, general paresis; also after bulbar disease and diffuse diseases of the cord.

(c) After diseases of the cranial bones and vertebra, and of the meninges.

(d) After diseases of individual nerves, such as result from the pressure of an aneurysm and disease of the middle ear.

(e) After disease of the sympathetic nerves and ganglia, including the cases occurring after intestinal disease and after exophthalmic goiter.

2. Diseases of the cerebrospinal and sympathetic nervous system without appreciable anatomical changes. This group includes the cases following:

(a) Psychical derangements.

(b) Acute and chronic alcoholism.

(c) Epilepsy and hysteria.

(d) Inherited and psychical neuropathic characteristics.

3. Injury to general health, as from excessive bodily and mental activity, effect of intense heat, poor nourishment, and particularly catching cold.

4. Infectious diseases—diphtheria, measles, scarlet fever, intermittent, typhus and typhoid fever.

5. Cases without any discoverable cause whatever.

*Etiology:* The disease is commonest in comparatively young persons. Of the 85 cases analyzed by Strauss<sup>9</sup> the largest number—36—occurred between 10 and 25 years. In the statistics collected by Roberts, van der Heijden and Stoermer, the largest number of cases occurred between 20 and 30 years of age. Gerhardt,<sup>10</sup> in his excellent monograph, states that more than one-half of all the cases occur between the tenth and fortieth years. The ages of the patients in the present series was as follows: 13, 25, 30, 32, 34, 35, 36, 44 and 57 years. The largest number—five—occurred between 30 and 40 years of age; seven of the nine cases were males. Troussseau found that it was not unusual to find that the parents of patients suffering from diabetes insipidus

were either glycosuric or albuminuric. Ralfe emphasized the frequency with which a history of tuberculosis, syphilis and gout was obtained in one or both parents.

Case I well illustrates the point brought out by Ralfe concerning tuberculosis in the ancestors. Although the patient had an apical pleurisy, suggesting a tuberculous infection, the case has been placed in the idiopathic group, there being no cerebral symptoms. Ralfe also believed that malnutrition was a very important predisposing factor in the etiology of the disease in children.

The following case is a private patient of Dr W. S. Thayer, who asked me to look after her for a few days, in December, 1903, during his absence from the city. Dr. Thayer has kindly permitted me to report the case, and I am indebted to him for the following history and notes:

CASE I: Diabetes insipidus in a girl aged 13 years and belonging to the idiopathic group; very marked history of pulmonary tuberculosis on the father's side of the family; an apical pleurisy of brief duration; no evidence of meningeal symptoms.

M. D., white, female, school-girl, aged 13 years, first came under observation on October 1, 1903, complaining of increased thirst and frequency of micturition.

The child's paternal grandfather, grandmother, two paternal aunts and an uncle all died of pulmonary tuberculosis. Her maternal grandfather died three years ago of pneumonia. The patient is the only child and there is no history of any diabetes in the family.

She had always been a fairly healthy child. Six years ago a lump appeared on the left leg. It softened but did not discharge. For a number of winters she was subject to attacks of bronchitis. From May to about the middle of August, 1902, she had a very severe attack of whooping-cough.

The present illness began in January, 1903, when her parents noticed that the child began to drink large quantities of water, accompanied by a corresponding increase in the flow of urine. Her mother states that she at first would have to leave a glass of water on the mantel-piece to quench the child's thirst; then two glasses; then three, and finally a pitcher of water. The appetite is variable; at times it is much increased.

In April, 1903, she consulted a physician, who made a diagnosis of diabetes mellitus. She was placed on a very much restricted carbohydrate diet. Her weight one year ago was 108 and now it is 95½ pounds.

*Physical Examination:* Tall child, rather thin; face rather pale, but lips and mucous membranes of a good color. Tongue not dry. Radial arteries soft. Pulse, 80 to the minute at the beginning of the examination. Blood pressure 130 mm. Hg. (Riva Rocci instrument).

The thorax is a little long; costal angle just under 90°; expan-

sion equal. The lungs are clear throughout on percussion and auscultation.

The point of maximum cardiac impulse is visible and palpable in the third space about seven cm. from the median line. First sound is a little prolonged, but clear. The second sound is reduplicated at the apex; rather a long period between its reduplications. This is lost inside of the parasternal line; not heard at the base. No reduplications of the second sound at the base. Soft systolic murmur at the base on both sides, over the manubrium and in the carotids. At times, particularly just outside the apex, the prolongation of the first is long enough to be regarded as a real murmur. In the erect posture the sounds are just the same. Action is perfectly regular.

What is apparently the bladder can be felt a little to the right rather than to the left of the median line, extending about one-third of the way to the umbilicus. Liver is not enlarged. Right kidney is just palpable. Spleen is not palpable.

Two specimens of urine, a night and a morning specimen, were examined by Dr Hamman. They showed respectively specific gravities of 1001 and 1002. There was a very faint trace of albumin in both of them; no sugar, and no casts in the sediment.

The child, on the basis of this analysis, was placed on a fuller and more nutritious diet and given a simple bitter tonic.

On December 7, 1903, Dr Thayer examined the eyegrounds. The disks were perfectly clear and the fundi showed no abnormalities.

During the last week in December, 1903, I saw her for what the family called a "cold." She had considerable cough and a good deal of pain referred to the left shoulder and increased by coughing and deep breathing. For two or three days there was considerable fever, the temperature rising at nine p. m., on December 27, to 104° F. Examination of the lungs showed no impairment of the percussion note, but slight tubular modification of the breath sounds over the left supraspinous fossa, where a superficial leathery friction rub was heard on December 28. The sputum, which was slightly mucopurulent, showed no tubercle bacilli. The patient was quite well of the pulmonary symptoms in about 10 days.

*Urine Examination:* The urine has been examined once or twice a month up to the present time. The 24 hour amounts when measured have been as follows: 2900, 5200, 4200, 3000, 4200, 3200, 3700, and 3400 c.c. On April 10, 1904, the last examination was made. The specific gravity has never been above 1003.5. The color has always been very pale, taking on a slight yellow tint at times. Albumin has been present in very minute traces at times. Sugar has been persistently absent and casts have never been found. The urea excretion has ranged from nine to 19 grams in the 24 hours.

*Treatment:* When it was found that the case was not one of diabetes mellitus and the child was placed on a liberal diet her

weight steadily increased. For several months she was periodically placed on eight minimis of ergot three times daily, with some apparent benefit. At intervals she has also had courses of tincture of belladonna in 12-minim doses three times daily, but without any marked diminution in the urine.

The child's general condition at present is very good. She seems quite well with the exception of a slight cough. The lungs show no evidence of disease at present. Her weight is now 107 pounds.

Heredity is a very important predisposing factor in a certain percentage of cases. Without multiplying examples, it is sufficient to say that the most remarkable instance was in the family reported by A. Weil.<sup>11</sup> Of 91 members of four generations 23 had persistent polyuria without any deterioration of health, namely, the great grandfather, three children, seven grandchildren and 12 great grandchildren. Of the 22 affected descendants there were 11 males and 11 females.

Traumatism to the nervous system is not an infrequent cause. According to Stoermer, 30 percent of all cases are traceable to injuries of the brain alone. Trauma to the soft parts and bones of the body does not produce diabetes insipidus. The only authentic exception to this statement is a case reported by Nothnagel, in which diabetes insipidus followed a kick on the abdomen. The essential factor in these trauma cases is, as we would expect, an injury to the brain substance itself. The disease does not appear to be confined to or to be commoner after injury to any special part of the brain. The polyuria is believed to be due to the effects of the concussion the brain sustains.

The disease not infrequently follows a *cerebral hemorrhage*. In 1865 Leyden<sup>12</sup> reported such a case, and Ollivier at a subsequent date drew attention to their frequency.

*Cerebral tumors* rank at the head of the list of gross brain lesions in the frequency with which they are followed by diabetes insipidus. The nature of the tumor appears to be a minor factor. It may be a gumma, a malignant growth or a tuberculous focus. The situation is of greater importance. The disease occurs most frequently in association with tumors which involve the floor of the fourth ventricle or which are situated in the immediate vicinity. On the other hand, tumors frequently occur in this situation without producing a diabetes insipidus.

Polyuria and polydipsia have long been described as symptoms of *cerebral syphilis*. Fournier reported six cases in which these symptoms were present in association with various cerebral manifestations of the disease. Lancereaux, Oppenheim and others

have also noted the association. The lesion usually producing the polyuria is a basilar syphilitic meningitis. This was the form of lues in Buttersack's case, in which the disease was localized mainly in the interpeduncular space. Polyuria was the initial symptom in his patient. Nonne<sup>13</sup> states that it is not necessary, as was formerly held, that the lesion should involve the medulla oblongata or its vicinity. He asserts that all we can say is that polyuria and polydipsia are most liable to occur in syphilitic brain lesions which manifest themselves in the form of a diffuse basilar meningitis. Many of the cases of diabetes insipidus due to syphilitic basilar meningitis have been associated with bilateral hemianopsia. Oppenheim considers an "oscillating" form of hemianopsia or an "hemianopsia bitemporalis fugax" as being practically pathognomonic of basilar cerebral lues. He has reported three such cases, in one of which polyuria and polydipsia were associated. In this case, besides the hemianopsia, there were other evidences of basilar meningitis in the form of a double oculomotor paralysis and anosmia. Spanbock and Steinhaus<sup>14</sup> state that in 50 cases of temporal hemianopsia reported in the literature there was polyuria in 11 instances; two of our five cases in which cerebral lues was believed to be the cause gave a history of hemianopsia, which, however, did not exist during the period of observation.

We have been particularly impressed in the consideration of the etiology of the disease in the present series with the frequency of syphilis as an etiological factor; four of the nine cases (Cases II, III, IV, V) were undoubtedly due to this cause. Two others, Cases VI and IX, particularly Case IX, were probably also luetic in origin, but, as positive evidence was lacking, it was deemed better to be conservative and place them with the so-called idiopathic group. All the cases had very remarkable cerebral symptoms, as the histories show.

The following case was undoubtedly one of cerebral lues. The history of his attacks of transitory hemianopsia suggests strongly that there was a basilar luetic involvement of the brain, probably a gummatous meningitis:

CASE II: (Gen Hosp. No. 38162.) Diabetes insipidus due to cerebral syphilis; dragging of the right leg and severe cerebral symptoms with unconsciousness of a week's duration preceded the onset of thirst and polyuria; recurring transitory attacks of hemianopsia an early symptom of the cerebral disease; urine in excess of fluids; day urine exceeded the night urine; knee-jerks exaggerated.

L. R., male, married, aged 35 years, a business man from

Ohio, consulted Dr Osler on February 7, 1902, complaining of great thirst, and was sent into the Johns Hopkins Hospital, on March 10, for observation.

Family history excellent. Thirteen years ago he contracted syphilis, but was well and thoroughly treated. Married nine years ago; has healthy children. Three years ago he had an attack of what his doctors said was cerebral syphilis. For several weeks he had had a little dragging of his right leg. In 1898, while on a cruise in Cuban waters, he noticed that for periods of five minutes at a time he would lose his sight over one-half of his visual field; does not remember which half. He would be able to see only the half of objects, sign-boards, etc. These attacks of hemianopsia would clear up and recur many times in the 24 hours. They lasted for a month and never since returned. One evening, in October, 1899, while watching a game of billiards, he was seized with severe headache and went to bed. The next morning he had a severe attack in which he was cyanotic for hours. He was critically ill, the breathing light and quiet, and for some time it was not thought that he would recover. He remained unconscious for a week, his temperature being markedly subnormal. After consciousness returned he talked at random, and did not know where he was for a time. No paralysis followed. For some time before this attack he had had severe headaches at intervals. He gradually recovered, but during the convalescence he noticed that he had the most unquenchable thirst, which had persisted without interruption ever since, and for which he sought advice. Since the attack in October, 1899, his physical health had been excellent. He had had no headaches and was able to go hunting; but, as he expressed it, he "simply lived to drink." He said that he passed no moment without thinking about it. He literally drank quarts of cold liquids at a time. The urine had become markedly increased, and he passed from 9000 c.c. to 10,000 c.c. daily. No perspiration over body, but profuse sweating over forehead and face in hot weather. Next to his thirst, the most distressing symptom at the time he came under observation was the existence of severe racking pains in the lumbar region, which were worse at night and interfered with his sleep. No treatment had been of any avail. He had taken potassium iodid up to 150 drops of the saturated solution in the day.

*Physical Examination:* Remarkably healthy looking man; good color and fine physique; weight 204 pounds. Arteries not sclerotic. Pulse slow, regular, and not increased in tension. Tongue red and clean. Pupils medium-sized, equal, react to light and accommodation ocular movements perfect. Movements of facial muscles normal; no trace of any residual paralysis. Hearing good. Taste and smell normal. No Romberg's symptom: stands well on either leg. Knee-jerks are slightly exaggerated. Tactile, thermic and painful sensations everywhere perfect. The examination of the thoracic and abdominal organs was negative. Ophthalmoscopic examination showed the disks to be clear. The margins were well defined. Arteries not sclerotic. No retinal changes.

*Urine Examinations:* While in the hospital the amount of urine daily ranged between 5970 c.c. and 6990 c.c. The urine was very pale; the specific gravity averaged 1003; there was no albumin, sugar or diazo. For a period of five days the nitrogen, urea, chlorides and phosphoric acid were estimated. All were within the normal limits. During this period the daily excretion of urine exceeded the intake of fluids by from 370 to 1100 c.c.

*Treatment:* The patient was put on antisyphilitic treatment, but during his short stay in the hospital there was no special improvement in the nervous or urinary symptoms.

In the following case no definite history of a primary luetic infection was obtained, but from his sexual history and the early improvement of the cerebral manifestations after the commencement of potassium iodid there seemed no doubt as to the existence of cerebral lues. Nonne records an almost identical case in which his diagnosis was meningitidis luética gummosa basalis; encephalomalachia arterios klerotica (hemiparesis sinistra, hemiparalysis dextra, hemianopsia duplex, polydipsia) :

CASE III: (Gen. Hosp. No. 33393.) Diabetes insipidus probably due to cerebral syphilis; initial symptoms were left-sided headache and pains in the legs; polydipsia preceded polyuria; marked excess of urine over fluids; decided psychical disturbances; severe vertigo and transitory attacks of left-sided hemiparesis, and later a definite right-sided hemiplegia; late history of hemianopsia attacks; improvement in general condition under potassium iodid; exaggerated knee-jerks; history of transitory attacks of hemianopsia.

W. A., male, white, single, aged 32 years, stenographer, was admitted to the Johns Hopkins Hospital under Dr Osler, for the first time on January 6, 1901, complaining of headache, thirst, passing of large quantities of urine, and pains in the feet, left hip-joint and body.

The family history was unimportant. The only previous illness he had ever had was an attack of typhoid lasting 13 weeks at the age of 19. He denied having had gonorrhea or syphilis, although he admitted excessive sexual indulgence of a promiscuous nature. He was a heavy drinker and for several years averaged a quart of whiskey daily.

His present illness began during the summer of 1898 with severe constant headache over the left side of the head. This was soon followed by severe pains in the knees and legs. About two months after the onset of the headache his thirst became intense, and soon he noticed that he was voiding abnormally large quantities of urine. His appetite was usually rather poor. There was complete loss of sexual power and desire. He steadily lost weight and strength before admission. His mental condition seemed to have changed. In taking the history he would break out into violent tirades against his previous physicians and employers. He declared on several occasions that he had two heads, and was very boastful about the amount of work he was capable of performing.

*Physical Examination:* The important features of the physical examination were as follows: The patient was sparely nourished, weighing  $140\frac{1}{4}$  pounds. There was no asymmetry of the skull or face. Complained of soreness on the left side of the head on percussion and on pulling the hair lightly. Percussion note on the left side of the cranium seemed a little higher pitched over the frontal and parietal regions. Left pupil was slightly smaller than the right; both reacted to light and accommodation. No strabismus nor hemianopsia. There was no difference in the grip of the two hands or in the strength of the two arms. The flexor muscles of the left thigh were a trifle weaker than those of the right. Otherwise the muscular power of the lower extremities was equal. Romberg's symptom was present in a moderate grade. The triceps and radial reflexes were normal. Both patellar reflexes were distinctly exaggerated. The epigastric reflex was diminished, plantar increased, and cremasterics normal. The lungs and heart were normal, and abdominal examination was negative. There was no visible evidence of a scar on the genitalia. Dr Randolph found that there was slight hyperemia of the left papilla and the disk outlines were rather vague. Right fundus was normal.

*Urine Examination:* The quantity of urine on his admission ranged between 5300 c.c. and 12,620 c.c.; the specific gravity between 1001 and 1004. It was persistently negative for albumin, sugar and casts.

A striking feature in the case was the almost constant and marked excess of fluids ingested over the urine output, this excess ranging from 400 to 6350 c.c. daily.

*Treatment:* The patient on admission was started immediately on potassium iodid in 15-grain doses three times a day, to be increased five grains every other day. This drug was given owing to the strong conviction that the cerebral manifestations were syphilitic in origin. There was immediate improvement in the headache and mental manifestations. The mental symptoms disappeared in two weeks, and when the patient left the hospital, on February 6, 1901, the headaches had entirely disappeared and he had gained  $18\frac{1}{4}$  pounds in weight. Valerianate of zinc and ergotin were tried with the object of reducing the flow of urine. Both seemed to reduce the urine somewhat, the latter to the greatest extent. On potassium iodid alone the average daily output of urine for nine days was 10,100 c.c.; on potassium iodid together with 15 grains of valerianate of zinc three times daily the average output for nine days was 9900 c.c.; on potassium iodid and two grains of ergotin three times daily the average output daily for the same period was 8100 c.c.

*Second Admission:* The patient was readmitted on June 17, 1901. On two or three occasions he had complained of numbness and heaviness in the left arm and leg. On the morning of admission, while coming downstairs, he suddenly experienced a sensation of heaviness in the left leg and arm. Both extremities felt

as though they were asleep. He was forced to sit down on the steps. For two minutes he was unable to move either arm or leg. Five minutes later the strength had returned and he felt perfectly well again. When he reached the hospital there was no evidence of muscular weakness and there was nothing on examination not previously noted. He had been taking 90 grains of potassium iodid three times daily. The urine had materially reduced. He remained in the hospital only five days, the daily quantity of urine ranging from 4960 to 6220 c.c.

*Third Admission:* The patient was admitted a third time on December 1, 1901. He had felt so much stronger that on November 21 he had taken up active stenographic work again. On November 28 he found on attempting to get out of bed at 10 a. m. that he had practically no use of his right leg. Later in the day he lost the power of his right arm, and articulation became difficult. When he entered the hospital four days later there was still almost entire loss of power on the right side, including the lower facial muscles on the same side. Articulation was still indistinct. The eye-grounds were normal. The amount of urine on this admission ranged between 5700 c.c. and 9180 c.c. daily. There had been considerable return of muscular power when the patient left the hospital on December 21.

Since that date the patient has frequently been seen. When he reported in March, 1902, he gave a history of hemianopsia attacks. He stated that at times in going along the streets he would be able to see only the half of objects, such as signs, etc. The last time he was seen was about five months ago. He was able to get about with a cane without much difficulty, but he still dragged his right foot considerably. His general health was excellent and his weight had increased to over 170 pounds. The thirst and polyuria were less intense, but still persisted.

The cerebral features in Case IV, with their rapid disappearance on the administration of potassium iodid, together with the early relief of the marked polyuria and polydipsia by the use of the same drug, seem to leave no doubt as to the diagnosis. It was, in fact, the only case in which the potassium iodid had any marked effect in reducing the polyuria. An interesting feature in the case was that, notwithstanding the reduction of the urine from 16,000 c.c. to between 2000 and 3000 c.c., the specific gravity remained extremely low, being always below 1005.

CASE IV: Diabetes insipidus, probably of syphilitic origin; passage of two renal calculi two years before onset; symptoms of polyuria preceded by headache for three or four months. Disease supposed to have followed an attack of influenza; marked loss of weight and extreme asthenia. Distinct vertigo and ataxia; double abductor paralysis of the vocal cords. Paralysis of the right palatal muscles; early diminution of thirst and urine under potassium iodid, and later an extraordinary gain in weight and strength under the same treatment.

E. F. B., white, male, aged 36 years, single, mechanical engineer, consulted me on July 14, 1900, complaining of general weakness and loss of voice.

The family history was unimportant. Patient had pneumonia at 19. Eight years ago he complained of "rheumatic" pains in hips and shoulders. Right-sided colic two years ago, when he passed two calculi the size of buckwheat grains. Smoked to excess, but drank in moderation. Gonorrhea at 22, but denied syphilitic infection. For two or three years the patient had been engaged in Northern Michigan as a mining engineer.

The present illness began in the fall of 1899 with severe headaches. In January, 1900, he had what was believed to be an attack of influenza accompanied by considerable fever. About this time he began to pass enormous quantities of urine and suffered from a perfectly insatiable thirst. Dr Charles Drummond, of Painesdale, Houghton County, Michigan, wrote me that repeated examinations of the urine showed it to be very pale, with a specific gravity of from 1003 to 1005. It never contained sugar nor albumin. The patient measured his urine shortly after the onset of the polyuria and found that the quantity was four gallons, or 16,000 c.c. for the 24 hours. He lost 30 pounds in two weeks at the onset. His appetite was poor from the beginning. Dr Drummond put the patient on potassium iodid and extract cinchona co., which apparently had a marked beneficial effect, for by May 1, 1900, the thirst and polyuria had almost entirely disappeared, and at the time he came under observation he did not have to void at all during the night. Since the "influenza" attack he had remained very weak. He had no cough, but was very dyspneic. Seven weeks ago his voice began to grow husky, and the hoarseness has persisted. In drinking there was a tendency for the fluid to return through the nostrils. For two weeks he had suffered from severe nausea and vomiting. Vomits just after rising in the morning. Headaches still appear at times. Had not taken potassium iodid for several weeks.

*Physical Examination:* When the patient first came under observation on July 14, 1900, the following were the most striking features: The patient was moderately emaciated; weight 130 pounds. Voice husky. Dyspneic on the slightest exertion. Right palatal muscles and pillars of the fauces are paralyzed. Dr Warfield reported a bilateral abductor paralysis of both vocal cords. Pupils equal and react sluggishly to light and actively to accommodation. Movements of eyeballs good. No hemianopsia. Dr Mills found the eye-grounds to be normal but reported some existing astigmatism. Romberg's symptom fairly well marked, the body swaying toward the left. Knee-jerks markedly exaggerated. Scar on the right side of neck resulting from a suppurating gland which was opened three years ago. The examination of the thoracic and abdominal viscera was negative. There was no evidence of a scar on the genitalia. Some fluid, mucoid sputum, was obtained and was negative for tubercle bacilli.

*Urine Examinations:* A fresh specimen of urine voided at the first visit was of a very pale color; neutral; specific gravity 1002; negative for albumin, sugar and casts. The urine for July 24 and 25 measured only "five pints and one gill" or approximately 2600 c.c. It was pale; acid; 1005; no albumin, sugar or casts. On August 12 to 13 it measured 2000 c.c., the specific gravity being 1004. During the same day he drank 3000 c.c. of fluids.

*Treatment:* The patient was first placed on a liberal, nutritious diet and 1/40-grain doses of strychnin three times daily. When seen on August 15 there had been no material improvement in his general condition, and, owing to the suspicious character of the cerebral manifestations, I decided to start him on potassium iodid again, beginning with 15 grains three times daily and gradually increasing until he had reached 30 grains to the dose. His general health began to immediately improve. The nervous features gradually cleared up with the exception of the laryngeal symptoms. His appetite and strength rapidly improved, and when he was seen October 8, six weeks later, his weight had increased from 131½ to 157 pounds, a gain of 25½ pounds. The patient then left the city with instructions to take 30 grains of potassium iodid three times daily.

Shortly afterward he was sent to London, England, by a Philadelphia electrical firm to look after their interests there. While on a visit to the United States in April, 1903, he called to see me. His general health was excellent. He then weighed 167 pounds. He thought he still drank more fluids and voided more urine than he should, but did not consider that either was much increased. His voice was a little husky. There was no ataxia and the knee-jerks were normal. A fresh specimen of urine showed the same features as previously. The specific gravity was 1004. It was not possible to ascertain the 24-hour amount.

(To be continued in April issue.)

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## The Diagnosis and Treatment of Intestinal Perforations in Typhoid Fever

BY RICHARD H. HARTE, M. D., OF PHILADELPHIA

When the flattering invitation of your president reached me, asking me to speak before you this evening, I was somewhat at a loss for a suitable subject for your attention, but finally selected, in the diagnosis and treatment of typhoid perforations, a topic that I feel sure must be one of great interest to every physician and surgeon. The great prevalence of typhoid fever as a disease, and the apparently unavoidable frequency with which the extremely fatal complication of intestinal perforation occurs (Briggs, *Amer. Jour. Med. Sci.*, May, 1903, has estimated that more than 16,000 perforations of the intestine due to typhoid fever occur annually

in the United States alone), renders a discussion of the subject one of perennial interest, and, I think I may add, of considerable value; for it is only by a discussion of the relative value of the various symptoms and modes of treatment at present known to us, that we can hope to save more of these cases from a fatal termination.

And, although it may seem somewhat like carrying coals to Newcastle to bring to your attention a subject which has already received such able treatment by many of the surgeons of Cleveland, yet I venture to present for your consideration some of the conclusions I have myself reached, not without the hope of carrying home with me, from your kindly discussion and criticism, some ideas which will be of practical utility to my future patients.

It does not seem necessary at the present day to urge the propriety of calling the surgeon in consultation in all suspicious cases, even before the physician feels convinced that a perforation has occurred. The physician, I know, is often of the greatest help in deciding on the propriety of surgical interference; an unwary surgeon would many a time open the patient's abdomen were not the physician at hand to remind him that sudden pains in typhoid fever are no unusual thing, that a leukocytosis of 10,000 or 12,000 was frequently observed, and yet that the patient seemed none the worse; that this patient had several times before vomited from no appreciable cause, or that, in another instance, abdominal pain and a fall of temperature had previously been significant of intestinal hemorrhage, not of perforation. But the surgeon must in the end take the responsibility on himself; he cannot, and he should not, regard himself merely as a mechanical device in the employ of the attending physician; and hence to render him able to appreciate the changes produced in a typhoid patient by perforation, he must familiarize himself with the normal aspects of typhoid fever. He should be well acquainted with the slow pulse, the disproportionately high fever, the distention of the abdomen, its normal resistance and susceptibility to pain, and should pay particular attention to the facial expression of the patient. This expression, and the change which occurs in it after perforation, is so characteristic, though difficult to describe in words, that to one familiar with the patient's daily aspect, it becomes a surprising help in the diagnosis. It is what the French might call an *abattement* of the countenance, consisting in a general weakening of the expression.

Hence, I think it is well for the surgeon of a hospital to keep himself tolerably familiar with all the typhoid patients, and I do not think the attending physician will resent this familiarity; both

of them desire the restoration of the patient to health, and both, physician as well as surgeon, recognize, I am happy to say, the unequaled importance of early operation in endeavoring to secure this result.

Pain is certainly the most frequent symptom of perforation in typhoid fever, and is usually of a stabbing character, situated most frequently in the lower right quadrant of the abdomen; but it is frequently first felt in the epigastric or umbilical regions, and a not unusual situation is in the bladder, or, in the male, at the end of the penis. The fact should not be overlooked that some patients are so apathetic, or are so far advanced in the toxemia of the typhoid state, that they feel no pain, thus it occasionally happens that the first evidence of perforation is the distended abdomen, with movable dulness in the flanks, so characteristic of widespread peritonitis with fecal extravasation. The pain of perforation, however, is usually severe, and as a rule does not readily subside; indeed, I have known patients to scream out, double themselves up, and roll around the bed in agony. The cause of the pain may at times be discoverable, and is then frequently significant of the lesion. The ingestion of solid food, straining on the bed-pan, a sudden turn in bed, or the involuntary contraction of the abdominal muscles due to the shock of a cold bath—any of these factors may be productive of a perforation. Sometimes symptoms of perforation have immediately followed the injection of a high enema.

Sweating, either alone or accompanied by a fall of temperature, is a not unfrequent accompaniment of the pain of perforation. The sweating may be profuse, and may involve the whole body, but is more often confined to the head and neck. The fall of temperature is a question over which there has been much discussion. In my experience this fall has been fairly constant, varying from two to four degrees (Fahrenheit) or even more; and I am inclined to agree with Hagopoff (*Bull. et Mem. de la Soc. de Chir. de Paris*, June 18, 1902, p. 680), who thought it not improbable that in those cases in which no fall of temperature is observed, it may be due to the fact that the temperature was not taken until the advent of the peritonitis had restored the original range of fever. I therefore consider it a valuable rule to have the temperature taken immediately after the occurrence of any abdominal pain, and for it to be subsequently recorded at frequent intervals until all doubt is past. A fall of temperature is, of course, a very frequent accompaniment of intestinal hemorrhage during typhoid fever, but the hemorrhage is as a rule painless, and is usually evident in the stools in the course of an hour or so at the outside.

Rigidity of the abdominal muscles is the most valuable of all signs in the diagnosis of intestinal perforation. This is a rigidity which is reflex, and hence involuntary, depending for its production on the overflow of stimulus received in the lumbar cord from the inflamed peritoneum and is usually observed in the right rectus and oblique muscles of the abdomen. Voluntary rigidity of the abdominal muscles is often present in typhoid fever, the patients endeavoring to protect their sore and swollen intestines from the careless prodding to which they are daily subjected by some physicians. I do not think all physicians realize what it is that a surgeon means by abdominal rigidity. Some physicians will press their fingers into a patient's abdomen until they can palpate the lumbar spine, and declare that there is no rigidity; whereas a skillful surgeon, who is endowed with that indispensable gift—the *tactus eruditus*—will detect seemingly by the mere touch of the finger-tips, a rigidity which has altogether escaped the physician's grosser senses.

Tenderness is by no means so valuable a sign as rigidity, for not only may tenderness exist when no perforation is present, a fact which every physician knows well, but it may be absent when a perforation has occurred. The explanation of this fact is probably to be found in the apathetic state of the patient, the typhoid toxins having completely benumbed his sensibilities. It is states such as these, as already remarked, that perforation may be unaccompanied even by pain.

Besides the pain, tenderness, and rigidity usually encountered in these cases, certain other factors are to be considered, which, while by no means so pathognomonic as the pain accompanied by rigidity, are nevertheless at times very valuable aids in making a diagnosis. Along with these cardinal symptoms—pain and rigidity—there is, in the vast majority of cases, an increase in the pulse rate. The usual pulse of typhoid fever ranges between 80 and 100 beats a minute; but after perforation the pulse usually rises to 120 or 140 in a surprisingly short space of time, often within 15 minutes after the onset of the pain. The change in the facial expression which follows an intestinal perforation, I have already alluded to as being of much value in detecting the occurrence of perforation.

Dulness on percussion is a very uncertain sign, and obliteration of the liver dulness, upon which so much reliance was placed in former years, is even more elusive. Mere intestinal distention frequently produces obliteration of hepatic dulness, and even when air is free within the peritoneal cavity the liver dulness may

persist. Dulness in the flanks, unless of rapid development, cannot be considered pathognomonic of fecal extravasation, since, where the colon is freely movable the liquid feces within it may give rise to a similar condition.

An examination of the blood to determine the number of leukocytes present should be made whenever possible, but the result should not be considered except in confirming the clinical signs. During typhoid fever the number of leukocytes is physiologically decreased, and although an extremely high leukocytosis may render positive the diagnosis of perforation, a low count should under no circumstances be interpreted as showing that no perforation exists, since the patient in this latter case may be completely overwhelmed by the typhoid toxins, and no leukocytic reaction may be possible. Dr Crile's observations (*Jour. Am. Med. Assn.*, 1903, I, 1292) on the increase of blood pressure at the onset of peritonitis have interested me, but I have not had an opportunity of employing this method of diagnosis in these cases.

The prognosis of intestinal perforation in typhoid fever depends almost entirely on the speed with which operation is undertaken; recovery without operation is so exceedingly rare as to be practically non-existent. Among 564 operations for typhoid perforation, to which I have references, 24.65% finally left the surgeon's hands well, being a mortality rate of 75.35%. If from this number were to be excluded many cases in which the patients had really recovered from the operation, but died some weeks later of the original typhoid infection, or of some other complication, this death rate could be materially reduced; but even this improvement, I am convinced, would be more than counterbalanced by the large number of fatal operations which have never been reported at all. Indeed, it seems to me that a surgeon who can cure one out of five of his patients is to be congratulated, since he is thereby sure that he has saved at least one individual from a death which would irretrievably have overtaken all the five had he held his hand and refused the one hope offered by the medical science of today.

The operation for intestinal perforation is probably too familiar to everyone here tonight for it to be necessary for me to discuss its technic at great length. Yet, I think it is important to insist upon performing it as soon as possible, and to shorten the time consumed in its performance to the utmost of our ability. I never "wait for the shock to pass" before opening the abdomen: the time elapsing from the first suspicious symptoms, in making the diagnosis, in obtaining the consent of the patient and the

family to operation, and in transporting the patient from the typhoid ward to the operation room, is all too great; and I look forward to the time when consent for operation will be given in all our large hospitals when the patient is first admitted. At the very least, the surgeon should seek consent as soon as suspicious symptoms appear, and should not wait until the diagnosis is positively made. The surgeon who waits until the shock of perforation has passed, will wait the onset of diffuse peritonitis with the death of his patient: the less time that elapses between the occurrence of the perforation and its repair by suture, the better for the patient.

I have always employed general anesthesia, with ether, in these operations, and see no reason to change. The operation usually lasts no more than 15 or 20 minutes, from beginning to end, and total unconsciousness on the patient's part is more valuable by far in the rapid completion of the operation, than are any of the advantages, imaginary at best, which are claimed for local anesthesia. It should not be forgotten that ether is a heart stimulant and that even a patient apparently moribund may improve so much under its administration as to render operation justifiable.

In cases in which the diagnosis remains uncertain, but in which the symptoms do not ameliorate, I think an exploratory laparotomy is to be earnestly recommended. Experience shows that even if no perforation exists most of these cases are nevertheless materially improved by the intervention; while in not one of the reported instances do I think the operation can be said to have in any way hastened death.

There are few surgeons at the present day who advocate any other than the right iliac incision. Those who still employ the median incision must, I think, have had a somewhat limited experience. Over 73% of perforations are situated in the ileum within 12 inches of the cecum, and over 94% are in the last two feet of the small intestine. In addition to this argument, there is the fact that it is frequently very difficult, when the abdomen is opened in the median line, to determine in which direction the presenting loops of bowels run, no matter how proficient one may be with Monks' method of intestinal localization. If we first locate the cecum, it is easy to trace the ileum upwards until the perforation is found; but in too many instances where the median incision has been employed the surgeon has searched the presenting intestine in vain until he has unexpectedly lighted on the duodenum, and has then been forced to retrace his steps nearly down to the cecum, thus much prolonging the operation, and subjecting his patient to great additional shock and traumatism.

As soon as the perforation is found it should be sutured, and

the toilet of the peritoneum should not be commenced until further soiling of it has been prevented. In over 12% of cases—one out of eight—more than one perforation is present. Hence, diligent search should be made in all inflamed areas, and every spot even threatening perforation should be *inverted*. It will be found to save much time if two pairs of eyes search for perforations at once, the surgeon inspecting one surface of the gut as his assistant scans the other.

Inversion of the perforation, with Lambert sutures of black silk, is usually best done in the long axis of the bowel, as there is thus less risk of producing stenosis of its lumen; sutures applied transversely to the bowel are, moreover, prone to tear out, as the intestinal coil tends to resume its normal convexity. Excision of the ulcer, I regret to say, is not only useless but harmful, as it consumes unnecessary time and may cause hemorrhage. If the perforation is so large as to preclude suturing, an omental flap should be adjusted over the defect; or if this or some similar device fails, an artificial anus should be established. Excision of the affected bowel with an end-to-end anastomosis is far too severe an operation to be undertaken, and in every reported instance in which it has been performed it has proved uniformly fatal. The formation of a fecal fistula, on the other hand, is easy of execution, being possible merely by the judicious disposition of gauze packs; and were it not for the impossibility of adequately draining the peritoneum through a wound into which feces are constantly discharging, might be a procedure to be highly recommended. As it is, my preference is distinctly for suture of the perforation first, then for the use of an omental or peritoneal flap, and finally, all else failing, for the establishment of a fecal fistula. Nor do I think it judicious to make a formal artificial anus, with a fully formed spur between the afferent and efferent loops of bowel which would necessitate a secondary operation for its enclosure; it is much better to attach the perforation to the parietal peritoneum, when it will usually be found that the fecal fistula closes of its own accord within four or five weeks, or even less.

The toilet of the peritoneal cavity must next engage the attention of the surgeon, and is a matter much in dispute in cases of peritonitis from any cause. Thorough irrigation with hot saline solution is, in my opinion, the most efficacious method of cleansing the abdominal cavity, and not only that, but I am sure, if rightly done, it offers the patient the best chance of recovery. I cannot see that infection is thus diffused, nor that the patient is much shocked by it, nor that recovery is less sure than when no irrigation has been employed. In these cases the infectious material is

already widely diffused, but has not yet been absorbed, if the operation is done before adhesions have formed; and if the *materies morbi* can be removed, absorption will be effectually prevented. The time required and the traumatism inflicted in the process of sponging the peritoneum clean must forever condemn that method to conscientious surgeons; and the only other course open to us is to leave fecal matter, and perhaps pus, free in the abdominal cavity and let the patient take his chances of fighting off the infection with no other help from us than is afforded by the introduction of a drainage tube. Irrigation is, therefore, to my mind, the only rational treatment to pursue. To satisfactorily cleanse the abdomen by irrigation it is not sufficient merely to pour a few pitcherfuls of solution directly into the abdominal wound, and then to mop it out again in an aimless manner; the surgeon should be provided with a large tube, having a lumen of half an inch, and with multiple perforations, a rubber tube and a funnel being attached to its outer end. Through this funnel should be poured gallons of hot solution, the quantity being of more importance than the quality, so long as it is of a temperature not below 110° F. The tube is to be applied first to the pelvis, then to the left and the right flanks respectively, and finally both above and below the mesentery, the surgeon's left hand separating the coils of intestine as his right hand manipulates the tube. The funnel should be held two or three feet above the abdomen of the patient and the irrigation should be continued until the fluid returns clear. During the irrigation it has been nearly invariably my experience that the patient's pulse improves. This is no doubt due in part to the temperature of the solution employed, but may also, I think, be attributed to direct absorption of the saline fluid distending the vascular channels.

When the surgeon is satisfied that the abdominal cavity is as clean as he can make it by this method, but not before, the tube may be withdrawn; but he should let the main part of the fluid that has not already escaped, and which is clean, remain in the abdomen:

Drainage is best maintained by gauze wicks placed in those regions of the abdomen where fluid is wont to accumulate. Usually the pelvis, each loin, and the sutured area should each be drained by a separate large wick of gauze and the gauze should remain in place for from five to seven days at least. Too early removal of the drains is not only very painful to the patient, but renders the formation of residual abscesses extremely likely.

As a rule, I prefer to have the foot of the patient's bed elevated, thus favoring drainage from the pelvis along the tracts of gauze.

The intravenous use of normal salt solution during the operation I regard as one of the most valuable means of preventing shock and sustaining the patient during the first few hours after the operation. The greatest number of deaths after operation occurs within the first 12 hours, and if by any means life can be sustained until this period is over, the chances for recovery are materially improved, less than 60% of these patients dying after that lapse of time. The administration of saline solution should be continued after recovery from the ether, being then best given by enteroclysis. A pint may be given through a high rectal tube every three or four hours. The fluid should be allowed to be slowly absorbed.

No food should be given by mouth until the third or fourth day at least, nutriment being meantime provided by enemas. The quantity of these should be small, depending somewhat upon the toleration of the rectum. When food is finally given by mouth, it should be remembered that the patient still has typhoid fever, as well as a sutured area in his intestine.

In conclusion, I venture to briefly report my own experience with laparotomy for typhoid perforations. The results, while not brilliant, are yet, I am sure, not below the average. I have operated 24 times for this condition. In two cases no perforation was found. Both these patients recovered. Of the 22 operations in which perforation had actually occurred, only four recovered, giving the disheartening mortality of 86%. Armstrong (*Jour. Amer. Med. Assn.*, 1902, I, 1466) recorded five cures among 33 operations, a mortality of 85%; Lavroff (*Roussky Vratch*, Aug. 14-21, 1904—abstracted in *N. Y. Med. Jour.*, 1904, II, 659) noted four recoveries out of 33 patients, a mortality of 88%; while Goodall (*Lancet*, 1904, II, 10) has recently collected 49 consecutive operations, four patients recovering, a mortality of 92%. Among the deaths, however, in any such series of cases, will be found a number which occurred so long after the operation that they were evidently due neither to it nor yet to the intestinal perforation, the patients having recovered from their peritoneal complications, and really dying from the toxemia of typhoid fever. Were I interested, therefore, in "improving" my own mortality, as is sometimes done by operators, this could readily be accomplished by transferring such patients from the column of deaths into that of recovery from the operation.

I know of no operation, except possibly hemorrhage, where speed in operating is so important a factor in securing success. From the time the knife is taken in hand things should move with rapidity. This is only possible by system and regularity. In too

many instances it is a race with death, and there are often anxious moments when it is questionable who will win: yet in only five reported cases has death occurred before the operation was completed. A death on the table is always a most painful occurrence in surgery, but doubly so if the surgeon has in any way to blame himself for delays that might have been prevented by care and forethought.

## The Typhoid Mortality of Cleveland for the Year 1904

BY GEORGE WILTON MOOREHOUSE, M. D.

The present study of the typhoid mortality of the city of Cleveland for the year 1904 has for its purpose (1) a presentation of the mortality by months, (2) an estimate of future mortalities, and (3) a brief consideration of the adequacy of the improvements already instituted in the water supply of the city.

	{	Average	1903	1904	Registration Area, U. S., 1900		
		1892-1902			Total	Urban	Rural
January	Deaths	7.7	32	12	2.1	2.2	2.1
	Mortality	2.1 + 0.8	7.55	2.75			
February	Deaths	8.9	23	45	1.6	1.6	1.5
	Mortality	2.5 + 0.9	5.42	10.30			
March	Deaths	12.5	55	50	1.7	1.7	1.6
	Mortality	3.6 + 1.4	13.00	11.40			
April	Deaths	11.1	66	29	1.3	1.4	1.2
	Mortality	3.2 + 1.6	15.60	6.64			
May	Deaths	11.8	51	13	1.4	1.3	1.5
	Mortality	3.4 + 1.2	12.00	2.98			
June	Deaths	10.9	39	10	1.1	1.1	1.1
	Mortality	3.2 + 1.1	9.20	2.29			
July	Deaths	11.2	54	5	1.6	1.6	1.5
	Mortality	3.4 + 1.6	12.70	1.14			
August	Deaths	15.0	42	5	2.5	2.6	2.4
	Mortality	4.5 + 1.8	9.91	1.14			
September	Deaths	12.3	40	11	3.3	3.3	3.5
	Mortality	3.7 + 1.6	9.43	2.52			
October	Deaths	13.0	22	12	3.7	3.3	4.2
	Mortality	3.9 + 1.3	5.19	2.75			
November	Deaths	9.5	20	7	2.8	2.8	2.7
	Mortality	2.8 + 0.8	4.72	1.60			
December	Deaths	9.3	28	4	2.3	2.4	2.2
	Mortality	2.7 + 0.9	6.61	0.91			
Total	Deaths	133.2	472	203	25.4	25.3	25.5
	Mortality	38.9 + 9.2	111.50	46.50			

*Read before the Academy of Medicine of Cleveland, February 17, 1905*

The available facts for this study are given in the table. The first column shows the average number of deaths by month and the mortality by month, per 100,000 of the estimated population, for the years 1892 to 1902 inclusive. It contains also the average variation from the average mortality for each month. This is determined by subtracting from the average mortality of any month the mortality of that month in each of the years studied and averaging the differences. Since, on account of chance alone, uniformity in mortality is not to be expected, a knowledge such as this affords of previous variations is of distinct value in any comparison of a month's mortality with the average for that month. The average variation may be considered roughly to mark a half-way point between the average and the lowest mortality on the one side and the highest mortality on the other. Merely for convenience the average less the average variation will be spoken of as the average minimum, while the average plus the average variation will in the same way be called the average maximum. It seems nearly self-evident that the mortality of any month cannot be called abnormally high or low on account of a variation from the average unless at the same time it exceeds the average maximum or is less than the average minimum. For instance, although the average mortality for July has been 3.4, a mortality of 4.0 could not be considered necessarily abnormal, since the average maximum of July has been 5.0.

The second column of the table, giving the number of deaths and the mortality from typhoid fever by months in the year 1903, is of interest for comparison both with the average and with the mortality of 1904. The third column gives the same facts for the year 1904. The first and second columns of this table, as well as the first half of the third column, were published in the JOURNAL, August, 1904. It is to be regretted that in its original publication by a clerical error the number of deaths and corresponding mortality for May, 1904, was too high, the number of deaths being stated as 31 instead of 13, the correct figure. The remaining columns give the mortalities in the registration area of the United States, urban, rural and total, for the census year 1900.

The mortality of each month of the year 1903 was not only greater than the average mortality for that month, but was greater even than the average maximum, with the single exception of the month of October, and its mortality exactly equaled the average maximum for that month. The mortality of January, 1904, while greater than the average, is slightly less than the average maximum. During February, March and April, the mor-

talities were decidedly greater than the average maximum, and in February and March an epidemic prevailed of about the same proportions as in the corresponding months of 1903. Since April the mortalities by month have been less than the corresponding averages. While less than the averages, the mortalities of May, June, September and October were greater than the average minimum; those of July, August, November and December, on the other hand, are less than the average minimum.

With these facts concerning the typhoid mortality of the city in 1904 before us, it will be interesting to consider some of the chief conditions which affected the water supply of the city during this time. On the 22d to 24th of January occurred our customary January thaw, which washed much sewage down the Cuyahoga river and into the lake in the neighborhood of the (old) intake. An increase in the number of cases and deaths could be foretold with certainty on the occurrence of this thaw and its effect was seen in the epidemic of February and March. On the 10th of February water used in the city was pumped in part from the new intake. On the 7th of April the use of water from the old intake was discontinued, and since that time, except on one day in the latter part of July, when on account of a break in one of the pumps supplying the city or for the purpose of testing a pump, one-half of the day's supply was pumped from the old intake. I am greatly indebted to Mr Bemis, the superintendent of the water works, for this information and the permission to use it. That this water was pumped from the old intake is interesting from the standpoint of our mortality records. It will be noted that the September and October mortality exceeded the average minimum, while that of the two preceding and two following months were less than the average minimum. The relation is interesting, though it is improbable that anyone will have the hardihood to insist that the slight increase in the mortality of the months in question was due to the water pumped from the old intake in July rather than to chance.

May we rightfully draw any conclusions concerning typhoid fever in Cleveland in 1905 and future years from our experience in 1904? In April, at the time our entire water supply began to be pumped from the new intake, an epidemic of typhoid fever was raging in the city. In May and June the mortality from this disease had dropped below its average for the years 1892 to 1902. In July, apparently, the effect of the contamination in the water from the old intake had entirely passed away, and we had touched the normal and better level of the new intake. Thus we have a full six months on which to base an estimate of the future.

The relative typhoid mortalities of the first and second six months of the year seem to bear a pretty definite relation to each other. In Cleveland, as shown by the previous study, there is a manifest tendency to spring epidemics which is not shown in the mortalities of the registration area. As a result the mortality of the first half of the year in Cleveland has been 86.2 percent of that of the last half of the year, while in the urban portion of the registration area it is but 58.1 percent. The mortality of the last half of the present year in Cleveland was 10.06; the mortality for a year on the basis of the registration area would be 15.92, and on the basis of previous local conditions, 18.76. With any improvement, such as would be caused by securing the city's water from a point further out in the lake, it seems reasonable to suppose that the occurrence of relatively greater mortalities in the spring months are more likely than not to continue, and, therefore, that the relation between the mortalities of the first and last halves of the year that have prevailed in the past in Cleveland would be a safer guide to the future than this relation in the urban part of the registration area. It seems, then, that we may expect the future typhoid mortality for Cleveland to be between 16 and 19 per 100,000 of the population. The higher figure, since it is based upon local conditions, is probably more nearly correct. This estimate assumes that the entire water supply of the city will be derived from the new intake, and that no contamination differing from that which exists at present, in character or extent, shall affect this source of water supply in the future.

The CLEVELAND MEDICAL JOURNAL<sup>1</sup> stated editorially that "it is certain that an improvement of any account in the character of the municipal water shows at once in a diminution of the number of cases and deaths from typhoid fever. It is therefore presumably true that the water from the new intake will give a lower typhoid mortality." To whatever extent we can judge the typhoid mortality of the future by that of the past six months, we seem warranted in expecting a mortality similar to that of the city of Detroit, in which for the years 1898 to 1901 it varied from 16 to 20. On account of less favorable geographical conditions, the local intake being at some distance from the main current of the lake, it has been thought that the Cleveland mortality with water from the new intake might be in excess of that of Detroit or even of that of Buffalo, which is still higher. That the Cleveland mortality apparently equals the better of these is encouraging. If, however, we turn from the cities along our great lakes to those having the lowest typhoid mortalities, we find 10 European cities

from one-fourth to more than three times the size of Cleveland, no one of them having a typhoid mortality in the year 1896 greater than eight per 100,000. These cities had a total population of 6,250,000 and a total mortality of 5.08. Three of these cities secure their water supply from a presumably uncontaminated source. Four of them, however, filter the water of rivers which are presumably more considerably contaminated than is that body of water known as the Great Lakes. *None of them use a contaminated water without filtering.* These facts witness to the possibility and practicability of furnishing an uncontaminated water to the population of large cities. They further show that with such a water typhoid mortality above 10 is excessive.

We are not warranted in expecting that the future typhoid mortality of Cleveland, with the improvements already installed, will be less than three to four times that of these cities having a combined population of 6,250,000 people. Can the municipality be held guiltless of this unnecessary number of deaths from a disease which is so largely preventable, if it takes no further steps to improve the character of the city water?

The present character of the water is still further endangered by inadequate pumpage. The stated capacity of the pumps for the new intake is 80,000,000 gallons daily. At one time of excessive use, the city has been obliged to pump 96,000,000 gallons for a single day's consumption, and at another time an average of more than 90,000,000 gallons for five days. This extra consumption can be compensated for by increasing the work of the pumps between 15 and 20 percent, and, to some extent, by taking more than the usual amount of water from reservoirs. From these statements it will be seen that we have no margin of safety in times of excessive use. With the growth of the city the normal use of water will increase and it is absolutely necessary that the pumpage be kept in safe relation to maximum use, not only when all machinery is in good condition, but with provision for inevitable breaks in pumps and other apparatus.

842 Logan Avenue

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## Subcutaneous Injection of Paraffin in Facial Deformity and in Atrophic Rhinitis

BY S. H. LARGE, M.D., CLEVELAND

Mrs D. has had the nasal deformity shown in the illustrations since birth. You will notice that the deformity is very marked;



in fact, it was so great that she was unable to wear spectacles on account of there being no bridge, and as a result she shunned society and lived a very secluded life.

*Operation:* The skin over the nose is made as aseptic as possible by green soap, ether, alcohol and bichlorid. The paraffin, which has a melting point of 110° F., is boiled. The syringe, which has a powerful screw piston, is also boiled. After the paraffin is poured into the syringe it is allowed to become semi-solid. A long



curved needle is then used puncturing the skin at the beginning of the depression. An assistant makes pressure over the internal canthus of each eye to prevent the paraffin interfering with the drainage of tears, and the paraffin is molded while it is being forced into the subcutaneous tissue.

In atrophic rhinitis: The chronic cough that accompanies atrophic rhinitis is one of the hardest afflictions to combat. I have used the subcutaneous injections of paraffin into the tissues of the inferior turbinals in 15 cases and the results have been very



gratifying. The cough in every case has been lessened and in some instances has entirely disappeared. One must select his cases though, as in some forms, in which the mucous membrane is closely adherent to the periosteum, it would be impossible to use paraffin.

Depression after the radical operation for empyema of frontal sinus: In two cases in which paraffin was used to correct the depression following the radical operation for empyema of the frontal sinus, a slight deformity is only perceptible on very close inspection.

Some of the possible dangers resulting from the injection are first: Embolism; this is prevented by using paraffin in a semi-solid form, and second, infection and abscess. There is very little danger if the operation is carried out aseptically, and too much paraffin is not injected at one sitting.

After the operation ice compresses should be applied for 24 hours.

# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
{ THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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## EDITORIAL

### Work of the Rockefeller Institute

The publication of the first volume of reprints of the articles published under the auspices of the Institute, for the first three years of its existence, brings together a mass of research that is in itself sufficient evidence of the value of the fund, and an indication of the wise management of the Directors.

When the Institute was founded, in 1901, it was the intention to have the men, who were doing research, collected in New York under the direct supervision of the Director, but it was found necessary for a few years to distribute the subjects for study among men working in known laboratories in various parts of the country and to defray their expenses as far as possible. The articles were to be submitted to the Institute for approval and could then be published wherever the author saw fit. Twenty-seven of these articles have been collected into the first volume of reprints and indicate the trend of research of the Institute and indeed more or less that of the scientific medical world. Problems in pathological anatomy, except such as refer to the finer cytological details are rare, and most of the research men are laboring with the problems brought out by Ehrlich's articles on immunity and the side chain

theory, or with work tending to establish more clearly the relations of certain of the infectious diseases to the micro-organisms with which they are associated. A sub-division of this last line of research, and one of daily increasing importance, is the study of the protozoan parasites, concerning which the literature has increased many fold in the last two or three years.

Among the infectious diseases perhaps dysentery has received the most attention, stimulated by the discovery of Shiga's bacillus in that disease. The failure of the sera prepared against the infection has led to careful study which has resulted in the determination that the bacillus really represents a group rather than a single variety, and in the preparation of sera we must be guided accordingly. The identification of this group with the whole series of dysenteries and summer diarrheas is of obvious importance. With regard to typhoid, more attention has been paid in this series to information about the sources of contamination of the food supply, and the means of knowing when such pollution has taken place, than to the study of typhoid directly.

Studies in pure bacteriology leading to the better knowledge of the chemical activities of bacteria, studies on metabolism with special reference to the injection of substances like adrenalin into the body and its effect on the various organs, studies on the influence of the presence or absence of various nerves on the progress of inflammation, all these are noteworthy among the papers.

The whole series is eminently practical, the intention of the Institute being that its work throughout should have a direct bearing on the infectious diseases and whatever may aid in elucidating their causes and the best means for their prevention when possible, and for their treatment when they occur. Since the *Journal of Experimental Medicine* has come under the control and editorship of Dr Flexner, the Director, it will be used as the official organ of the Institute. It is the intention that the scope of the work shall be broadened as occasion offers, and with the opportunity and support given to young men who are willing and able to work at research, but are hampered by the lack of adequate funds, we have a right to expect an ever increasing amount of valuable material brought out along the lines already laid down.

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### The Philadelphia Filtration Plant

We have grown so accustomed to the facility with which we as a nation can produce the "greatest on earth" with an apparent minimum effort, that the creation of every succeeding "wonder" loses somewhat in the force of its impression.

In the present instance, however, the combination of "the greatest filtration plant in the world" to catch not the smallest, perhaps, but some of the smallest, bacteria in the world for the prevention of one of the greatest of our modern scourges is too fascinating to lose sight of for an instant.

The history of Philadelphia's water-supply and typhoid mortality for the past 20 years are too well known. In the light, however, of what that city has finally accomplished in the purification of her water-supply, we should in justice forget her past record lest she in turn point a finger of scorn at Cleveland.

For a pure water-supply \$26,000,000 may seem a bit dear to our city fathers, but we must remember that Philadelphia is completing the greatest filtration plant at present in existence, and that this large total expenditure was made necessary by certain local conditions and by the necessity for additional pumping machinery to meet an enormous possible future demand.

The filtration equipment of Philadelphia consists of four separate and distinct plants covering an area of 465 acres, and capable of furnishing 320,000,000 gallons of filtered water daily. Curiously enough, Philadelphia gives of her water-supply far more generously than any other city in the United States, her average being 229 gallons *per capita* daily as against 190 gallons *per capita* daily for Chicago, which city comes second in the list, while Cleveland is third with a daily *per capita* consumption of 159 gallons (*Sanitation*, January, 1905).

The story of the inception and building of this filtration plant is one of great scientific as well as practical interest. The point which we wish to emphasize, however, is not the magnitude nor the cost of this plant, but its efficiency as demonstrated by the figures available for the two units already in active operation, one for one year and the other for six months.

Number of bacteria per cubic centimeter in Schuylkill River water at Shawmont .....	15,000
Number of bacteria per cubic centimeter in same water after passing through the Lower Roxborough filters..	8
Percentage efficiency of filters.....	99.95
Number of bacteria per cubic centimeter in Schuylkill River water at Shawmont .....	15,000
Number of bacteria per cubic centimeter in same water after passing through Upper Roxborough filters.....	20
Percentage of efficiency of filters .....	99.87
Number of bacteria per cubic centimeter in Schuylkill River water at Belmont .....	9,600
Number of bacteria per cubic centimeter in same water after passing through filters at Belmont.....	16
Percentage of efficiency of filters .....	99.48

These figures speak for themselves. No more convincing argument of the efficacy of filtration or of the value of filtration of *contaminated* water could be asked for. May the seed sown in the Quaker City bear fruit—in time—in the Western Reserve.

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### The City Water

The comparatively low mortality rate for typhoid fever during the past few months has been ascribed mainly to the improvement in the city water since the new intake has been in use. At this time of the year, when the spring freshets are to be expected, it is advisable not to place too much reliance upon the purity of the water supply. Experience in the past has shown that following a thaw with the resulting flushing out of the Cuyahoga Valley there has frequently occurred a sudden outbreak of typhoid fever. The greater distance of the new intake from the shore will lessen the chances of such an accident, but to any one who has observed the shifting of the ice fields far out into the lake, and their return to the shore, the possibility of contamination of the water in the vicinity of the crib through this agency is very apparent. The value of the new intake will soon be subject to this critical test and the typhoid returns for the next two or three months will be watched with considerable interest. It is plainly the duty of physicians, in view of the possibility of such a contamination, to issue a note of warning as to the advisability of boiling all water employed for drinking purposes.

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### Cleveland Physical Education Association

Among the numerous organizations in active existence in Cleveland engaged in philanthropic and charitable work among all classes of individuals, none should command any greater appreciation than the Cleveland Physical Education Association.

Organized with a view to awaken a more intelligent interest in the physical education, to acquire knowledge concerning it, and to labor for the improvement and extension of gymnastic games and athletics, and to otherwise promote physical development and public health, this Association has already accomplished an immense amount of good and is constantly at work in the endeavor to widen its field.

It is gratifying to learn from the last Bulletin of the Association of the immense strides which it has made in the past two years, not only in active increase in membership in the Association,

but in the widely increasing interest shown by all classes of professional and lay men and women in the work being done along these lines.

As the seed for the successful growth of this movement must be sown amongst our public school children, it is natural that the work already accomplished in our public schools should serve as an index of the amount of time that is actually being given by our public schools to this all-important endeavor to improve the physical condition of the men and women of tomorrow.

From the Bulletin, already referred to, we learn that during the current school year, five high-school gymnasiums have been equipped and placed in use under the intelligent supervision of an instructor of physical education with eleven assistants. The Central High School has a double gymnasium with two instructors who devote their entire time to this large school, while the other high-schools receive the services of seven instructors on alternate days.

The gymnastic work in the high-schools is, however, voluntary and the arrangement of the school program is such that very many of the scholars do not elect physical training. This is, in our judgment, unfortunate, but, on the other hand, it is reassuring that quite a large percentage of the pupils are enthusiastic patrons of the gymnasium.

In the grade-schools the period given to gymnastic exercises has been lengthened to 15 minutes a day, and we are told that in addition three two-minute periods are secured for stretching and breathing exercises.

Within a reasonable limit, every addition to the time devoted to exercises for the improvement of the physical well-being of the school children at a sacrifice of the time given to mental discipline is, in our opinion, a wise change, and the 15 or 20 minutes now devoted to these exercises is none too long.

As our school laws provide that the Board of Education shall determine the course of study and the general plans for physical exercise to be followed in our public schools, their responsibility is no light one. As emphasized in this Bulletin the action of the Board in these matters should be deliberate and carefully worked out, and a plan once established should be given a just trial before any change is even thought of.

All work and no play can be carried to an extreme but it hardly seems as if our public school children could get too much well directed physical training, and yet might easily be forced to attempt too much "ritin, readin and rithmatic."

### Leaflets of the Ohio State Board of Health

We desire to call attention to the leaflets recently sent out by the Ohio State Board of Health, issued in the interest of the prevention of venereal diseases. The extent to which venereal infection has become a menace to the public health is made all too plain by the following statement which we quote from the circular letter sent out by the State Board:

"It is estimated that 80 per cent. of all deaths from pelvic diseases in women are due to gonorrhea. Twenty per cent. of all blindness is due to gonorrhreal infection of the newborn. Fifty per cent. of all involuntary childless marriages are caused by gonorrhea of the female organs of generation, of which 45 per cent. are due to marital infection by men. In this country it is impossible to quote statistics, as they never have been gathered. The committee of fifteen estimated that there were annually 200,000 cases in New York city alone. In Prussia, where they have more reliable data, it has been stated that typhoid fever represents a yearly loss of 8,000,000 marks, while the increased expenses and decreased income caused by venereal diseases amount to 90,000,000 marks annually—an amount which exceeds that caused by tuberculosis. But the financial loss is of minor importance compared with the enormous social changes and consequent social misery."

In view of these facts the State Board of Health asks the cooperation of every physician in Ohio in the securing of reliable statistics relative to the prevalence of gonorrhea and syphilis, and print at the bottom of this letter a number of questions which the physicians of the State are asked to fill out at the end of the year and return to the Secretary of the State Board.

The second leaflet is one which has been carefully prepared with a view to its distribution to those unfortunates who have contracted a venereal infection. It consists of a plain statement of facts, setting forth the danger to the public at large from the prevailing widespread occurrence of both syphilis and gonorrhea, and offers a number of vitally important directions to be followed by every patient in the interest of the prevention of any further spread of the disease.

The prevention and control of venereal infection is a problem in contrast to which that of all other scourges sink into insignificance. Any measures that may help in mitigating the ravages of these two diseases should enlist the enthusiastic support of the profession.

It is to be hoped that the physicians throughout Ohio will assist our State Board in so far as lies in their power, not only by giving the desired statistical data, but by availing themselves of these leaflets in every instance in which they may be indicated. Additional leaflets can be obtained by addressing the Secretary of the State Board of Health at Columbus.

## The Milk Commission

We print on another page the text of the organization of the Milk Commission of the City of Cleveland, and wish here merely to call attention to the scope and purpose of this Commission and to enlist the support of the profession in this movement.

The Commission appointed by the Academy of Medicine, of Cleveland, includes representatives from the Homeopathic Medical Society and the Chamber of Commerce, and appeals to all milk dealers to cooperate with them in their work. As a result of the work of the Commission it is hoped that, by the first of May, there will be on the market and obtainable by residents of all parts of the city milk of high chemical standard and exceptional purity. It is with the production of this milk alone that the Commission has directly to do. It has been found, however, that the general standard of milk sold in cities is raised as an indirect result of the appointment of such Commissions.

The movement to secure a clean, wholesome and safe milk is one which needs no comment from us. The same movement undertaken in a number of cities throughout the country has been shown to be, not only eminently just to the dairymen, but of great value and protection to the public.

No direct charge is to be made for the examinations made by the Commission, the necessary expenses incurred being met by the sale of the authorized certificate caps. Dealers holding the Commission's certificate will be furnished circulars for distribution, which will specify the advantages to be derived from certified milk and explain that the necessarily resulting increase in price is due to the additional care and expense involved in producing the certified milk.

For those dairymen wishing to cooperate in this movement the Commission submits a number of suggestions relative to the care of the stable, cows and milk, taken from the dairy rules of the United States Department of Agriculture. The Milk Commission ask the enthusiastic support and cooperation of all the physicians and milk dealers of the city. All inquiries for detailed information may be addressed to the Secretary, Dr J. J. Thomas.

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## The Georgia Practician

The last addition to the ranks of medical publications has appeared under the above title as a monthly publication at Savannah, Georgia. Judged by the character of this first number the *Georgia Practician* must be accredited a first place among the monthly medical journals of the country.

So sensible and to the point is the "foreword" appearing in this number that we cannot resist quoting the following paragraphs in full:

"Our advertising shall be strictly ethical, and absolutely confined to our advertising pages. No advertiser will buy his way into our reading matter pages. The profession is being educated to this disgraceful and too prevalent practice, and are properly casting out these subsidized sheets; and the time is not far distant when the advertisers who practice these methods will see their folly, as evidenced in the alienation of the patronage of the intelligent, and therefore the largest practitioners of the country.

"Nor shall we hitch our editorial wagon to the star of certain other prevailing methods; our brother in mental travail must not expect from us a long-range diagnosis, prognosis, and treatment of his afar-off patient; it would not be fair to him, to us, or to his patient. We must refuse to swap our remedy for bed-wetting for his never-failing colic cure; and while we are interested in his views on bi-metallism and in his advice to anxious parents guaranteeing them a boy at the next natal crisis, we are constrained to deny him a hearing on these subjects in our columns."

We congratulate the *Practician* not alone for the stand taken, as expressed by the above quotations, but on its general appearance and make up as well.

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### Army Medical Corps Examinations

Preliminary examinations for appointment of Assistant Surgeons in the Army will be held on May 1st and August 1st, 1905, at points to be hereafter designated.

Permission to appear for examination can be obtained upon application to the Surgeon General, U. S. Army, Washington, D. C., from whom full information concerning the examination can be procured. The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between 22 and 30 years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have at least one year's hospital training or its equivalent in practice. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to the localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

In order to perfect all necessary arrangements for the examinations of May 1st, applications must be complete and in possession of the Surgeon General on or before April 1st, and for the examination of August 1st, on or before July 1st. Early attention is therefore enjoined upon all intended applicants.

There are at present twenty vacancies in the Medical Corps of the Army.

## The Cleveland Academy of Medicine

The twenty-second regular meeting of the Clinical and Pathological Section was held Friday, February 3, at the Medical Library, Dr W. E. Lower in the chair. Dr J. Dickenson gave a clinical report of a case of "Melanoma of the Orbit with Metastases in the Liver." Dr O. G. Schultz gave a detailed account of the pathological findings. Dr W. H. Humiston presented several pathological specimens including fibromyomata of the uterus and ovarian cysts. Dr Bunts exhibited a gall-bladder removed at operation. A large calculus was imbedded in the beginning of the cystic duct and a number of small abscess cavities were situated in the thickened wall. Dr W. G. Stern showed a case of Volkmann's ischaemic paralysis of the flexors of the forearm following a fracture at the elbow. Dr Metzenbaum exhibited a specimen of salivary calculus removed from Wharton's duct. Dr N. Stone Scott read a paper entitled "An Obscure Case of Hemorrhagic Diathesis." Dr G. W. Crile reported a "Case of Pelvic Hernia (Procidentia), with Description of a New Operation for this Condition." The operation was illustrated by a series of diagrams. Drs Robb, Humiston and Bunts discussed the paper. Dr N. Rosenwater followed with a "Report of a Case of Lithaemic Gangrene; a Contribution to Haig's Uric Acid Theory." Drs H. L. Sanford and D. H. Dolley presented "A Clinical and Pathological Report of a Case of Chronic Splenic Anemia"; discussed by Drs Allen, Howard, Lichty, Bacon and Crile.

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The sixteenth regular meeting of the Experimental Medicine Section was held February 10, at the Medical Library, Dr W. T. Howard, Jr., in the chair. Dr O. Schultz read a paper on the "Biology of Protozoa in Relation to Disease." The paper was illustrated by a large number of diagrams. Drs Waite, McLoud and Howard discussed the paper.

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The twenty-fifth regular meeting of the Academy was held Friday, February 17, in the assembly room of the Hollenden Hotel, the vice-president, Dr E. P. Carter, in the chair. Dr D. P. Allen presented a paper upon "Prostatic Surgery" and gave a demonstration upon some autopsy preparations. Dr W. E. Lower discussed the paper. Dr G. W. Moorehouse read a paper upon "Cleveland Mortality from Typhoid Fever in 1904," which was discussed by Dr Martin Friedrich, Health Officer of Cleveland. Dr M. L. Heidingsfeld, unfortunately, was unable to demonstrate the new mercury light as the apparatus had been damaged in transit. He reported a number of cases treated with it and with the X-ray, illustrating them with a number of stereopticon views. Dr Myron Metzenbaum read a paper upon "Radium—Its Medical Value, with Reports of Cases." Dr T. C. Martin discussed this paper. Dr Christian Sihler presented a paper entitled "Notes on Hydrotherapy; of Five Years' Experience with Water."

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The Ophthalmological and Oto-Laryngological Section held its eleventh regular meeting February 24, 1905, at the Medical Library. The following program was presented: "Presentation of a Case of Rhinoscleroma," Dr A. H. Marvin; "Etiology and Pathology of Rhinoscleroma," Dr W. T. Howard, Jr.; "Pros and Cons of the Kuhnt's Conjunctival Flap—with Presentation," Dr Geo. F. Suker, of Akron.

## The German Medical Society

The officers for the German Medical Society for 1905 are: J. M. Belkowsky, president; E. Rosenberg, vicepresident; C. E. Schmitz, secretary; W. G. Stern, corresponding secretary; Dan Hemlich, treasurer. The society is composed of 35 active members and meets on the second and fourth Tuesdays of each month. As the name implies, the proceedings are carried on in the German language.

Seventeen regular meetings were held in 1904, at which numerous cases and specimens were demonstrated and 16 original papers were read. At one meeting Dr Lilienthal, of Bad Nauenheim, Germany, presented a paper entitled "Mechano-Therapeutics of Diseases of the Nervous System."

In January, 1905, Dr Stern read a paper on "Surgery of Paralysis," advocating tendon transplantations and nerve anastomoses in all cases of paralysis with disturbances of function which cannot be cured spontaneously in a reasonable time, and tenotomies in all cases of spastic paralysis as in apoplexy or cerebral spastic palsies.

Dr A. Lueke read a paper and demonstrated specimens from two cases of "Carcinoma of the Scrotum" or "chimney sweeps" cancer. Both men were afflicted while working in the carbon works. Dr Lueke holds that the great prevalence of these scrotum epitheliomas in chimney sweeps of the old-fashioned English type and again in those working with other forms of carbon, as in the paraffin and carbon works, is abundant evidence that carbon lodging in the folds and glands of the skin does cause sufficient irritation to produce a malignant hyperplasia of the cells of the skin. These forms of carbon being absolutely sterile, might tend to disprove the infectious theory of such skin cancers.

In February Dr Civins read a paper on the subject of "Physiology and Therapeutics of Iodin and Its Preparations." The most curious feature is the individual idiosyncrasies to iodin. Several cases were cited in which the tasting of the cork of a bottle of saturated solution of K. I. or the painting of the tincture of iodin on the finger produces all the toxic symptoms of iodism. In two other cases large doses of K. I. taken for a long time produced impaired vision on account of a cataract-like appearance of the lens, which cleared up as soon as iodid was withdrawn.

The next meeting will be held Tuesday, February 21, 8 p. m., at 1006 Rose building. Dr M. Kahn will present a paper on "Bronchial Asthma."

WALTER G. STERN, *Secretary.*

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## Cleveland General Hospital

A joint meeting of the regular staff and of the ex-house doctors of the Cleveland General Hospital was held Monday, January 9, at 8 p. m., in the amphitheatre of the hospital. Besides the routine business and the presentation of clinical cases, the following program was presented: "Report of a Case of Peri-Nephritic Abscess," Dr M. D. Stepp; "Report on Fifteen Dry Bone Specimens Obtained from the Dissecting Room of the Cleveland College of Physicians and Surgeons," Dr H. O. Feiss. A case of doubtful diagnosis was reported by Dr George E. Follansbee. There was a free discussion by all present. The next regular meeting will be held the second Monday in March, which will be on the 13th of the month.

EDWARD LAUDER, *Secretary.*

## Alumni Association of St. Alexis Hospital

The second annual meeting of the Alumni Association of Resident Physicians of St. Alexis Hospital was held February 2, 8 p. m., at the Hollenden Hotel. The program was as follows: "Anesthesia," Dr Joseph J. Dunn; "Report of a Case of Salivary Calculus," Dr Frederick J. Schmoldt. The meeting was largely attended. In addition to the program, Dr B. Peskind reported an interesting case of "Internal Hydrocephalus."

The officers elected for the ensuing year were: J. E. Cogan, president; J. V. Kofron, vicepresident; T. J. Calkins, secretary; M. Metzenbaum, treasurer.

## Organization and Purpose of the Milk Commission of the City of Cleveland

1. The Milk Commission of the City of Cleveland is organized for the purpose of securing an improvement in the quality of the milk supply of the community; and to this end its function shall be to have examined milk produced by dairymen, to inspect the source of milk supply, and to certify to the result of such examination.

2. The Commission shall consist of seven members; a representative from the Cleveland Chamber of Commerce, two representatives from the Cleveland Homeopathic Medical Society, and four from the Cleveland Academy of Medicine. From its own number the Commission shall select a chairman, a vice-chairman, a secretary and a treasurer.

3. The Commission shall report annually to the Societies represented in it.

4. No statement for publication and no information to any dairyman shall be given by or in the name of any individual member, but only after consideration by, and in the name of, "The Milk Commission of the City of Cleveland."

5. The Commission will hold itself in readiness to examine milk from dairies desiring this examination, and to certify to the good quality of milk which comes up to the standards it shall set.

6. The method of examination and certification to which the dairyman or his agent shall agree to submit shall be as follows:

7. The Commission shall select a bacteriologist, a chemist, and a veterinary inspector. The bacteriologist shall procure a specimen of milk from the dairy, or preferably, from delivery wagons. The intervals shall be such as may be arranged between the Commission and the dairy, but in no case shall these be longer than two months. He shall test this milk for the number and nature of bacteria present in it, to whatever extent the determination of a safe milk demands. He shall also make a microscopic examination of the milk. Milk free from injurious bacteria and having not more than 30,000 germs of any kind or kinds to the cubic centimeter, shall be considered to be up to the required standard.

8. The chemist shall in a similar manner procure and examine the milk for the percentages of proteids, fat and sugar present. He shall also test its chemical reaction and specific gravity and shall examine it for the presence of foreign coloring or other matters and for chemicals added as preservatives. Standard milk shall not show an acidity of more than 0.2 per cent., and shall contain not less than four per cent. fat, and shall be free

from all contaminating foreign matter and from all addition of chemical substances or coloring matters. Richness of cream in fat shall be specified by the dealer and shall vary not more than one per cent. above or below the figure named in selling. Neither milk nor cream shall have been subjected to heat before the examination has been made, nor at any time unless so announced to the customer.

9. The veterinary inspector shall, at intervals equal to those of the bacteriologist and chemist, and without previous warning to the dairy, inspect the cleanliness of the dairy in general, and care and cleanliness observed in milking, the care of the various utensils employed, the nature and quality of the food used, and all other matters of a hygienic nature bearing upon the health of the cows and the cleanliness of the milk, including also the inquiry into the health of the employes on the farm. He shall examine the cows for tuberculosis or other disease, and if diseased shall require their destruction or removal.

10. The Commission reserves the right to change the above standards within reasonable limits, due notice having been given to dealers.

11. The bacteriologist, chemist and veterinary inspector shall make their examinations when, and only when, notified to do so by the secretary of the Commission, and shall report the results of their examinations at once to him. Any dairy the milk of which shall be found by the examiners to be up to the standard of the Commission shall receive a certificate from the Commission, which shall read as follows:

MILK COMMISSION OF THE CITY OF CLEVELAND.

Date.....

The Veterinary Inspector of the Commission has examined the dairy of Mr. ...., and reports it to be well kept and clean, and the cows to be in a healthy condition.

The Bacteriologist reports that the milk does not contain germs beyond the limits of the standards of the Commission.

The Chemist reports that the milk is of standard richness, and that he has discovered in it no impurities, coloring matters, chemical preservatives, or harmful substances.

The Commission certifies to these statements of the examiners. It is understood and agreed to by the said..... that this certificate is good for not more than..... from date, when another examination is to be made.

(Signed by the Secretary of the Commission.)

12. In case an examination shows the milk not to be up to the required standards the dairy may have a re-examination made within a week or within a shorter time, at the discretion of the Commission.

13. The Commission have selected, for 1905:

As Veterinary Inspector,

As Bacteriologist, R. G. Perkins, M. D.

As Chemist, J. G. Spenzer, M. D.

14. Milk furnished by the dealers to whom certificates have been issued shall be delivered to consumers in sterilized glass bottles closed with a cardboard cap bearing the seal of the Commission and the date of expiration of the certificate. The bottle shall be sealed air-tight with melted paraffine stamped with the date of bottling, or secured in some other method as defined by the Commission.

15. The Commission will furnish to dealers circulars of information for distribution among their customers concerning certified milk, its method

of production, its value for infant feeding and other uses, and the fact that the increased care and expense involved in the production of clean, fresh milk must necessarily somewhat increase its price. The Commission will further, from time to time, distribute to the medical profession and others, circulars of information concerning the milk produced in accordance with its requirements.

16. No direct charges will be made for examinations, but the experts' fee and other necessary expenses of the Commission will be met by the sale of certificate caps, and it is thought that a charge of \$5.00 or less, per 1,000, will be sufficient for this purpose.

### Cleveland Medical Library—New Books

Purchased—Gould, Dictionary of New Medical Terms, 1905; Gould, American Year Book of Medicine and Surgery, 1904; "Medicine"; Rolleston, Diseases of the Liver, Gall-bladder and Bile Ducts, 1905; Friedenwald and Ruhräh, Diet in Health and Disease, 1905.

Donated—By C. J. Aldrich, M. D., Gould & Ryle, Anomalies and Curiosities of Medicine, 1897; Edebohl's Surgical Treatment of Bright's Disease, 1904; by Librarian of Congress, Report of Librarian, 1904, Check List of Foreign Newspapers, 1904, Papers of James Monroe, 1904; by Bureau of Ethnology, 22nd Annual Report of Bureau of American Ethnology, Part 2, 1900, 1901; by J. E. Newcomb, M. D., Sec., Trans. American Laryngological Association, 1904; by R. H. Harte, M. D., Sec., Trans. American Surgical Association, 1904; by B. L. Millikin, M. D., Trans. American Ophthalmological Association, Vol. X, part II; by Samuel W. Kelley, M. D., "About Children," Six Lectures to Nurses, 1897, by S. W. Kelley, M. D.; 10 Pamphlets, by S. W. Kelley, M. D.; by G. P. Conn, M. D., Sec., Trans. New Hampshire Med. Society, 1904; by H. E. Henderson, M. D., 12 monthly numbers of *Janus*, for 1904; by Editors CLEVELAND MEDICAL JOURNAL, 225 numbers current medical journals; by C. A. Hammann, M. D., Journal of Medical Research, Vol. XIII, No. 1; by G. C. Ashmun, M. D., 35 portraits (*carte de visite*) of eminent French physicians and surgeons, Maygrier's Midwifery, 1836, Bennett's Pulmonary Consumption, 1859; by Western Reserve University, Mittheilungen für Gynaek. Klinik. Band 1, Hft. 1, 3, 1897, Monatschrift f. Geburtsh. u. Gynaek., 1895, Windschied, Neuropath. u. Gynaek., 1897; by C. E. Skinner, M. D., Trans. Am. Electro-Therap. Assn., 1893, 1894, 1895, 1896, 1898; by Guy Fitzgerald, M. D., pamphlets; by Dr L. H. Taylor, Transactions of Luzerne County Medical Society, 1904; Henry Phipps Institute, First Annual Report of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis, Vol. XII, Feb. 1903 to Feb. 1904.

### Book Reviews

A Manual of Personal Hygiene. Proper Living upon a Physiologic Basis. By American Authors. Edited by Walter L. Pyle, A. M., M. D., Assistant Surgeon to the Wills Eye Hospital, Philadelphia. Second edition, revised and enlarged. 12mo volume of 441 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Bound in Silk, \$1.50 net.

This, the second edition of Dr Pyle's excellent book, has been thoroughly revised and desirable additions on hydrotherapy, home gymnastics, domestic hygiene, thermotherapy, first aid, etc., have been made. We know of no other work on practical physiology and hygiene so well adapted to prepare patients for the most intelligent cooperation with their physicians. Throughout the book there is concise but adequate discussion of the anatomy and physiology of the parts under consideration upon which is based the subjoined advice. Purely technical phraseology has been avoided as far as possible and numerous explanatory diagrams and illustra-

tions have been introduced. The author has succeeded in making a book that any physician may feel safe in recommending to his patients. This is far more than can be said of many of the so-called health-books which often serve rather to make hypochondriacs than normal healthy people.

*Atlas and Epitome of General Pathologic Histology*, by Docent Dr Hermann Durck, Munich. Authorized translation from the German, edited by Dr Ludwig Hektoen. Published by W. B. Saunders & Co., Philadelphia, 1904.

This book, which is a successor to the similar volume on special pathology, published by the same firm in 1901, shows marked improvement over its predecessor. The illustrations are more true to the natural colors, and are excellent examples of the processes discussed. Nearly half the book is given up to the discussion of tumors, which were very briefly treated in the former volume. This is for the most part very satisfactory, the tumors being considered according to their origin, whether from the connective tissue elements or from the epithelial or endothelial elements. The preliminary discussion as to the causes and origin of tumors is especially good and prevents the student from acquiring the common idea that each tumor has a definite shape of cell by which it may be diagnosed. The text is concise and clear, the illustrations are excellent, and the type is large and distinct. In fine, the book is one which should be extremely valuable to the student and also to the practitioner who desires to keep up his knowledge of pathology.

### Medical News

J. J. Thomas and G. W. Moorehouse will open offices at 260 Euclid avenue, the Kingmoore building, March 1.

At the request of the Lorain County Medical Society, Prof. J. H. Lowman, of Cleveland, lectured February 14, at Elyria, on "Tuberculosis in Its Social Relationship."

At the regular February meeting of the Richland County Medical Society, M. G. Atkinson read a paper on "Involvement of the Ear in Acute Infectious Diseases."

The annual report of the State medical board shows that 291 certificates to practice medicine were issued last year. To date, 11,499 doctors have been licensed in Ohio.

The new hospital at East Liverpool has been completed, and is now open for patients. Miss N. M. McClure, a practical and experienced nurse of McKeesport, has been appointed superintendent.

The Sandusky County Medical Association held a free lecture February 15 on tuberculosis. The speakers were: Dr Lowman, of Cleveland; Dr Probst, of Columbus; and Dr Chapman, of Toledo.

Arthur Dushny, professor of *materia medica* and therapeutics in the medical department of the University of Michigan, has resigned to take a similar chair in the University of London, England.

The Lorain County Medical Society held a very interesting meeting on February 10. The paper of the evening was read by W. F. Dager, and was on the X-ray machine. This paper was thoroughly discussed by the members of the society.

The regular meeting of the Academy of Medicine of Toledo and Lucas County was held February 10. The program included papers on "The Surgical Treatment of Dyspepsia," by Dr Wm. J. Gillette, and "Hydrocele," by Dr W. W. Stewart.

The first annual meeting of the physicians of the Third Councilor District of the Ohio Medical Association was held February 16. The Third Councilor District is composed of the counties of Hardin, Marion, Logan,

Seneca, Wyandot, Hancock, Allen, Van Wert and Auglaize, and is presided over by District Councilor F. D. Bain, of Kenton.

At the meeting of the Medina County Medical Association, held January 31 at the American House, there was a small attendance, due to the very bad weather. Dr Lowman, of Cleveland, was present and read an interesting paper on "Empyema in Childhood."

E. S. McKee, 19 West Seventh street, Cincinnati, has been requested to recommend "a young, unmarried, competent, Christian doctor" to the position of assistant in a hospital in Egypt for a period of two years. A small salary and traveling expenses, with much experience, will be given.

What is said to be the first statue erected in honor of a woman physician in the United States was unveiled in Fullerton Memorial Hall, Chicago, when the friends of the late Mary Harris Thompson presented a portrait bust of her to the institute. Dr Thompson was the founder, in 1865, of the Mary Thompson Hospital for Women and Children and was the pioneer woman physician of the Northwest.

The annual meeting and election of officers of the Academy of Medicine of Toledo and Lucas County was held January 8, 1905. The following officers were elected: Thomas Hubbard, president; Wm. G. Dice, vice-president; Louis A. Levison, secretary; John G. Keller, treasurer; Jas. A. Duncan, financial secretary. The board of directors is composed of the following members: W. J. Gillette, O. Hasencamp, H. E. Smead Wm. H. Fisher.

The Summit County Clinical Society held its regular monthly meeting at the office of Dr Wilson, in the Dobson building, February 7. After the interesting clinical cases had been disposed of, the subject of "Eclampsia" was taken up and thoroughly discussed by the following members: Drs M. W. Kapp, Katherine Kurt, William Murdock, William Wilson, E. J. Canfield, C. A. Dixon, D. W. Robinson of Akron, and F. D. Smith of Cuyahoga Falls.

The Marion County Medical Society held a regular monthly meeting February 7, making arrangements for sending a delegation to the annual district meeting of the Ohio State Medical Association, held at Kenton, February 16. Dr A. Rhu read an interesting paper on "Neurasthenia," after which the subject was generally discussed. A number of doctors reported unusual cases which had come under their observation since the preceding meeting.

The 134th quarterly session of the Union Medical Association of Northwestern Ohio was held at Akron, February 14. Lectures and essays were delivered by Dudley P. Allen, of Cleveland; A. F. Sippy, of Akron; E. E. Brown, of Cleveland, and H. M. Schuffel, of Canton, and a discussion of the advisability of removing patients to hospitals was led by H. Blankenhorn, of Orrville. Reports of cases were made by J. C. Haney, of Dalton; W. C. Steele, of New Berlin; N. B. Dawson, of Sterling; C. T. Hill, of Akron; C. E. Schilling, of Canton, and N. W. Culbertson, of Massillon.

The annual meeting of the Mahoning County Medical Society was held January 19, at which officers were elected for the ensuing year. Several interesting medical papers were read, after which a number of medical and surgical cases were reported and discussed. Dr R. E. Whelan was honored by being elected vicepresident of the society, a very high honor for a physician of his years. The election resulted as follows: C. R. Clark, president; R. E. Whelan, vicepresident; Robert C. Parrish, secretary; J. E. Cone, treasurer; John MacCurdy, H. E. Welch and J. J. Thomas, censors.

An elaborate medical library is being planned for the City Hospital. There is no large library of medical literature at the hospital at this time and the members of the staff have been quietly taking the matter up during the past year. At the annual meeting a committee of the officers was named to take the matter up thoroughly and make plans for the new library. The officers elected at the meeting to serve for the ensuing year are: G. F. Hanson, president; J. N. Lenker, vicepresident; and C. C. Stewart, secretary. The records for the last year are the best that the institution has ever made, some 3,000 patients having been treated.

The newly elected officers of the Clark County Medical Society gave a banquet at the Bookwalter recently, at which were present more than 50 members of the society. The society had previously been invited to a dinner at the home of Dr E. C. Harris, to inaugurate the new organization, but plans were changed and the dinner at the Bookwalter was the result of the change. J. M. Buckingham, the new president, presided as toastmaster. He gave the members an excellent paper in honor of his election to the office of president of the society, and others followed with entertaining talks. The new officers of the society are: J. M. Buckingham, president; M. V. Patton, vicepresident; T. F. Bliss, second vicepresident; J. C. Easton, secretary; J. D. Thomas, treasurer; executive committee—W. B. Patton, chairman; C. L. Minor and Henry Baldwin.

At the regular meeting of the Columbus Academy of Medicine, held Monday evening, February 6, a number of committees were appointed to arrange for the annual meeting of the Ohio State Medical Association, which will be held in Columbus in May. President F. F. Lawrence and Secretary Chas. J. Sheppard, of the Academy of Medicine, will be at the head of the general committee on arrangements. The committees are: Accommodations—Dr Charles Fremont Turney, chairman; Drs H. M. Platter, Frank Winders and Sherman Leach. Entertainment—Dr J. H. J. Upham, chairman; Drs J. E. Brown, Sterling Wilcox, Frank Warner and Yeatman Wardlow. Exhibits—Dr F. J. Blake, chairman; Drs Vandeer Taylor, D. W. Deuschle, Wells Teachnor and Sylvester Goodman. Finance—Dr H. W. Whittaker, chairman; Drs C. S. Hamilton, George M. Werner, P. D. Shriner, J. W. Clemmer, Charles McGavran and Dr Emerick. Dr D. N. Kinsman read a paper on "Albuminario," which was followed by discussion.

At the annual meeting of the Galion City Hospital Association, to be held on the evening of March 8, the trustees of that organization will recommend that the association accept a proposition submitted by Dr C. D. Morgan, to take over and occupy his hospital building on North Columbus street, as a city hospital. At a meeting of the trustees held February 7 the committee recently appointed to see Dr Morgan and to inspect the nearly completed building, reported quite favorably and also presented the doctor's proposition. This was considered satisfactory and the board of trustees decided to recommend its acceptance, provided it becomes evident by March 8 that funds can be raised to carry on the hospital work. About one year ago the canvassing committees secured subscriptions for about \$700, which is now considered good; also many promised memberships at \$2 each for the maintenance of the hospital. This committee, under the chairmanship of J. G. Herbold, will now go to work, securing further subscriptions, collections, etc. The meeting on March 8 is important not alone for this reason. Ten trustees are to be elected, two to fill the vacancies caused by the death of A. M. Metheny and Dr M. R. Hackedorn, and eight to succeed those whose terms expire.

### Deaths

T. M. Weadock, of Lima, died January 20.

Frank W. McCormick, of Fremont, died January 24.

S. S. Dilley, of Pemberville, died of pneumonia, January 27.

C. L. Sutton, of Findlay, Ohio, died recently of tuberculosis.

Eugene Jaques, of Painesville, died January 25 of pneumonia.

Arthur O'Leary committed suicide in this city on January 18.

Freeman D. Case, of Ashtabula, died of blood poisoning, February 7.

S. R. Beckwith, formerly of Cincinnati, died at Atlantic City recently.

George K. Rodebaugh, of Columbus, died February 6 of Bright's disease.

Timothy M. Lippitt, of Mt. Vernon, died February 10, following an operation for throat trouble.

W. W. Payne, formerly of Windsor and Jefferson, died at Ashtabula February 7, after several weeks' illness.

# The Cleveland Medical Journal

VOL IV

APRIL, 1905

No 4

## A Clinical Report of Nine Cases of Diabetes Insipidus

BY THOMAS B. FUTCHER, M. B. (Tor.),

Associate Professor of Medicine, the Johns Hopkins University, Baltimore, Md.

(Continued from March issue.)

CASE V: (Gen. Hosp. No. 42792.) Diabetes insipidus of syphilitic origin; definite evidences of cerebral gumma; intense right-sided headaches; ptosis of right eye; complete right-sided blindness; complete paralysis of all the branches of the right third nerve; prompt relief of cerebral symptoms on administration of potassium iodid; complete disappearance of ptosis and third nerve paralysis; moderate diminution of thirst and polyuria.

M. C. S., white, female, widow, aged 57 years, was admitted to the private ward of the Johns Hopkins Hospital, under Dr Osler's care, on May 17, 1903, complaining of severe neuralgia in the right side of the head.

The family history was unimportant. Of the diseases of childhood she remembers only having had scarlet fever. At that time the left ear was in some way affected and she has had partial deafness in it ever since. She had typhoid fever at 15. As a young girl she had severe attacks of headaches and biliaryness associated with constipation. Otherwise she had never had any serious illnesses previous to the onset of her present symptoms. There was nothing abnormal in her menstrual history. She was married at 20 years, and had borne four children, all of whom are living and well, their ages ranging between 27 and 37. She had had two miscarriages, one 20 years ago and the other between the birth of her third and fourth children. Her husband died one year ago. The cause of death could not be definitely ascertained. His general health had been, so far as known, good. He drank heavily and was only occasionally at home. The patient had never suffered from bone or joint pains, skin eruptions, falling out of the hair, or sore throat. After one of her miscarriages she was ill in bed for two weeks. There was no definite history of a luetic infection obtainable. She had always been constipated. For eight or 10

years the patient had voided rather frequently, and she thought that the amount of urine was increased in amount. There had been no increased thirst, however.

Her present trouble began in November, 1901, 19 months before admission, with sudden onset of pain in the right side of the head, especially just behind the right ear. There was also some pain in the right cheek and temple and to a lesser extent in the right side of the neck. The pain was of a throbbing character, and was paroxysmal in its occurrence, although it never left her entirely at this time. In August, 1902, while at Atlantic City, she was free from the pain for three weeks. In November, 1902, the pain in the head became much more severe, and the patient also began having disturbances in taste and smell. Food tasted and had the odor of putrefying meat. This sometimes produced nausea. About this date she first noticed dimness of vision of the right eye, and within one month complete blindness developed in this eye. She never had much pain in the eyeball itself, the pain being more deeply seated in the head. In March, 1903, she noticed that her right upper eyelid began to droop, and within a short time complete ptosis developed. Paralysis of no other facial muscles was noticed. There had been a progressive loss in weight and strength. During the present illness there had been a gradual increase in her thirst and in the amount of urine voided. She does not know which developed first. She has to void four or five times during the night at the present time. Her skin had felt harsh, but there had been no itching. There have been no sensory symptoms whatever. Four weeks before admission an attempt was made to drain the frontal sinus through the nose with a view of relieving the pain, but without any material subsequent improvement.

On May 19 Dr McCrae made the following note: The patient has a rather anxious expression. There is no great emaciation. The gums and mucous membranes are rather pale. There is complete ptosis of the right eye, none of the left. The pupils are unequal, the right being larger than the left, and does not respond to light. The left pupil does not react to light. There is slight movement outward and downward of the right eyeball. The tongue is protruded in the median line. The grasp of both hands is weak, but there is no definite paralysis on either side. The pulse is of good volume, regular, 72 to the minute. The vessel wall is slightly sclerosed.

The thorax is somewhat rounded. The percussion note is rather hyper-resonant throughout. The respiratory sounds are everywhere rather feeble, but seem clear. The heart sounds are clear throughout and of normal relative intensity.

The abdomen is rather full; nowhere tender. Over the trunk there are numerous somewhat raised areas, some of which are pigmented and resemble senile warts. Others resemble fibromata, and still others xanthomata. The liver dulness seems about normal; the edge of the liver is not felt. The spleen is not palpable.

The right kidney is readily felt, but apparently is not enlarged; left not felt.

There is no edema of the ankles. The knee-jerks are present but seem diminished.

On May 19 Dr Mills made an ophthalmoscopic examination and reported as follows: There is atrophy of the right optic nerve. The left disk is rather pale. All branches of the third nerve on the right side are paralyzed. The sixth nerve is unaffected.

Dr Thomas made the following neurologic note on May 20: The patient's sense of smell is fairly good; she recognizes the odor of milk and asafetida. Vision: right eye, *nil*; left eye, is able to read large letters at the top of the *New York Herald*, but not smaller print. Fields of vision roughly tested—some restriction of the temporal field. The right eye is completely closed, and she is unable to open the eye in the least. The left eye is steady and the eyeball is freely moveable in all directions. In looking upward there is an associated movement of the occipito-frontalis on the left and also on the right side, the latter occurring first. The left pupil in a moderately bright room is about 3.5 mm. in diameter and reacts directly to light and accommodation. It does not react consensually to light. The right eye is held toward the outer canthus and cannot be moved toward the middle line. In looking up there is no movement; in looking down there is slight rotation with the upper axis rotated in. The right pupil is about 6 mm. in diameter. It does not react to light, consensually or directly, nor during accommodation with the left eye. There is no contraction during forcible closure of the eye. Pinching of the skin on the right side of the neck does not cause any change in the size of the pupil.

The muscles of mastication seem to act equally on both sides. The facial muscles act equally well on the two sides. The sensation to touch, pain, heat and cold seems equal on both sides and about normal in acuteness. She does not hear a loud ticking watch in direct contact with the right ear but hears it a foot away on the left side. The muscles of the palate act well and equally. Pharyngeal reflex is equal on the two sides. The tongue is protruded in the median line. There is no apparent weakness on either side of the body. The sensation in the hands and the arms and the stereognostic sense seem good. The muscular strength of the legs tested in bed seems normal.

The deep reflexes are present and are normal. Plantar irritation causes flexor response. Cutaneous sensation is apparently normal.

*Urine Examination:* The urine for the 24 hours from May 18 to 19 measured 6700 c.c. It was extremely pale, very turbid, without any precipitate, faintly acid, specific gravity 1002; no albumin; no sugar. On microscopic examination there were no casts, but a few squamous epithelial cells and numerous bacteria.

The daily quantity of urine during her three weeks' stay in the hospital ranged between 3990 c.c., the lowest, and 6720 c.c., the highest amount. The quantity more frequently approached the latter than the former. For one week the intake of fluids was compared with the output of urine, and the two were found to approximately balance. There was an excess of 790 c.c. of fluids over urine during this period, however.

Our suspicions were so strong that the cerebral symptoms were due to a syphilitic gumma that the patient was immediately placed on daily mercurial inunctions and potassium iodid. She was started on 40 grains of the latter three times daily, and the dose was steadily increased until on June 8, the day of discharge, she was getting 165 grains daily. The antisyphilitic treatment produced almost immediate relief to the cerebral symptoms. The intense headache in the right side of the head rapidly disappeared, and she had been entirely free from it for ten days previous to her discharge from the hospital. On leaving the hospital on May 17, 1903, she could raise her right upper eyelid so that the palpebral orifice measured about 1 cm. Her general health had also materially improved. Up to the time that the patient left the hospital there had been no material diminution in the polydipsia or polyuria. The amount of urine voided for the last 24 hours was 4660 c.c.

On May 5, 1904, Dr Claytor, of Washington, under whose care the patient now is, kindly furnished me the following information regarding her: She continued the use of the potassium iodid until four months ago, or for six months after leaving the hospital. The headaches have never returned, and she feels perfectly well so far as her general health is concerned. Her present weight is 160 pounds, being a gain of 39 pounds since she left the hospital. The ptosis of the right eye has entirely disappeared. There is slight external strabismus of the right eye, but the movements of the eyeball are perfect, the axis of the right following that of the left in all directions. The sight of the right eye is entirely lost; there is not even light perception. For a week or two one of her feet has been swollen; the condition appeared to be rheumatic. Her thirst was diminished, but she still drank one quart of water at night and voided approximately four litres of urine in the 24 hours. She was of the opinion that she voided on an average less urine than a year ago.

Heijden reported a case of diabetes insipidus in a patient with chronic hydrocephalus. Cases have followed otitis media, probably from meningeal involvement. The disease has been observed in *general paresis*, imbecility, and chronic mania.

Diseases of the spinal cord have in rare instances been regarded as the cause of the polyuria. Schlesinger met with it in a patient with *tabes dorsalis*. Westphal observed it in *spastic spinal paralysis*. In this instance sugar was present in the urine at first, but afterward disappeared. Instances of persistent poly-

uria have been observed by Kraus in syringomyelia and by Friedrich in hereditary ataxia.

As instances in which the diabetes insipidus has been attributed to reflex action from stimulation of certain nerves may be mentioned the cases of Hadra and Ralfe, in which the disease was associated with *aneurysms of the carotid and abdominal aorta*, respectively. Here, probably, the reflex action was through the vagus.

Diabetes insipidus has not infrequently been associated with diseases of the abdominal viscera. As early as 1794 Frank observed a fatal case in a patient with chronic disease of the intestine. Schapiro has reported five similar cases. Dickinson recorded a case in a patient with *carcinoma of the liver with involvement of the solar plexus*. At the autopsy it was found that there were carcinomatous metastases in the retroperitoneal lymph glands, which involved branches of the solar plexus. There was also a marked hyperemia of the kidneys.

Polyuria is not an uncommon symptom in *hysteria, epilepsy, tetanus, and chorea*, and it reaches such a grade, and has been so persistent in some of the cases that many observers have been inclined to consider them cases of diabetes insipidus. Such instances have been observed by Oppolzer, Kien, Buttersack, Külz and others.

The following case was evidently due to some brain lesion of obscure nature. It may possibly have been luetic, but the history was not sufficiently definite to warrant its being placed with the luetic group:

CASE VI: (Gen. Hosp. No. 35321.) Diabetes insipidus of doubtful origin; typhoid fever eight months before onset; unconsciousness and left-sided convulsive movements of the arm and leg preceded the thirst and polyuria; amount of fluids exceeded that of urine; night urine greater than that during the day; knee-jerks diminished.

J. W., male, white, single, aged 25 years; German laborer in a copper foundry; was admitted to the Johns Hopkins Hospital, under Dr Osler, on June 28, 1901, complaining of intense thirst and the passing of enormous quantities of urine.

Family history unimportant. The patient was a laborer in a copper foundry, where the air was foul and dusty. In August, 1899, he was treated for double tertian malaria in the Johns Hopkins Hospital. On September 24, 1900, he was again admitted, suffering from a mild attack of typhoid fever. He was discharged just a month later. There was no polyuria at that time. In April, 1901, he was suddenly seized with unconsciousness, and said that during the unconscious spell he was told that he had convulsive

movements in the left arm and leg. The left eye was in some way affected and he had ringing in the left ear. He had suffered from severe headaches previous to the unconscious attack. Heavy drinker, taking from 15 to 20 glasses of beer daily. Tobacco in moderation. Denied both gonorrhea and syphilis.

The present illness began four weeks before admission. He first noticed intense thirst, followed shortly afterward by the voiding of large quantities of pale urine. The urine for one 24 hours measured  $3\frac{3}{4}$  gallons (15,000 c.c.). There had been no headaches nor vertigo since the onset of the diabetic symptoms. His eyesight in the left eye was slightly defective, and he complained occasionally of seeing double at night.

*Physical Examination:* The patient was fairly healthy looking and weighed  $140\frac{1}{2}$  pounds. There was no facial asymmetry; movements of facial muscles good. Skull seemed normal. Pupils normal in size and equal; reacted to light and accommodation. No strabismus nor hemianopsia. Dr Reik reported that there were curious changes about the blood vessels of the fundus oculi that were unexplainable. There were some minute deposits about the retina and choroid suggestive of what one sees in diabetes mellitus. The examination of the thoracic and abdominal viscera revealed nothing abnormal. The inguinal and epitrochlear glands were slightly enlarged. No evidence of a scar on the genitals. Knee-jerks diminished, just obtainable on reinforcement. Distinct Romberg symptom. Marked ataxia in walking, following a line with difficulty. Slight incoordination of the movements of both upper extremities. Blood count: red cells, 4,312,000; leukocytes, 11,300; hemoglobin, .65 per cent.

*Urine Examination:* The urine during the patient's stay in the hospital was enormously increased, the amounts ranging from 1330 c.c. to 13,330 c.c. for the 24 hours. The daily average was 10,002 c.c. It was extremely pale, faintly acid in reaction, the specific gravity ranging between 1000 and 1003, the former specific gravity being observed on several occasions. Albumin, sugar and casts were constantly absent.

The daily averages of the fluids ingested and of the urine voided for the 24 hours were 10,543 c.c. and 10,002 c.c. respectively for 20 days, showing that the daily average of the fluids ingested exceeded that of the urine voided by 541 c.c.

Owing to the strong suspicion that the cerebral symptoms were probably of luetic origin the patient was placed on increasing doses of potassium iodid, so that when he left the hospital on July 19 he was receiving 30 grains three times daily. When he was discharged there was no material improvement in his condition, the amount of urine for the last 24 hours being 11,520 c.c.

Cases VII, VIII, and IX, which follow, together with Case I, comprise the four cases in which no definite etiologic factor could be ascertained, and which I have classified as idiopathic cases. Case VII presented a feature of interest in the fact that he had

bilateral xanthoma palpebrarum on the upper lids. A careful study of his metabolism was made, and the results have been reported elsewhere.\* The point of interest brought out was that during 18 days he took on 49.77 grams of nitrogen, and yet weighed 200 grams less at the end than at the beginning of the period.

CASE VII: (Gen. Hosp. No. 21086.) Diabetes insipidus of doubtful etiology; probably belongs to the idiopathic group; disease of 10 years' standing; polydipsia the initial symptom; bilateral xanthoma palpebrarum; double suppurative otitis media: history of edema of the feet; study of metabolism showing marked excess of nitrogen intake over output, with a slight loss of weight.

A. S., white, male, aged 44 years; married, barkeeper, was admitted to the Johns Hopkins Hospital, under Dr Osler, on November 1, 1897, complaining of dyspnea, weakness, intense thirst, and the passage of large quantities of urine.

The family history was unimportant. The patient had always been a healthy man previous to the onset of the symptoms of diabetes insipidus. Three years ago he was operated on for fistula-in-ano, and for three years he had had a double suppurative otitis media. For many years he had been a barkeeper and had taken on an average from 10 to 12 glasses of beer daily. He denied ever having contracted syphilis or gonorrhea.

The present trouble began with insatiable thirst 10 years ago. He would drink four or five gallons of fluid daily and often as much as a quart at a draught. The polydipsia was immediately followed by polyuria. Seven years ago he began to notice swelling of the feet. This had not been present for the last three years. He had had cough and dyspnea for three years. The patient had never had any cerebral manifestations. He complained occasionally of his arms and legs "going to sleep." At the onset his weight was 230 pounds. He has since lost 60 pounds.

*Physical Examination:* The patient was a stout man, weighing 177 pounds on admission. He was healthy looking. On each upper eyelid there was a large, flat xanthoma measuring 1.75 x 0.75 cm. The lungs were emphysematous, and his heart was dilated and showed distinct evidences of myocarditis, the two conditions accounting for his cough and dyspnea. The abdominal examination revealed normal conditions. The triceps, radial and patellar reflexes were moderately exaggerated. The cutaneous reflexes were normal. The fundi were negative, but there was a double suppurative otitis media. The blood count showed a slight polycythemia. The red cells were 5,960,000; leukocytes, 9000; hemoglobin, 96 per cent.

*Urine Examination:* During a stay of about 10 weeks in the hospital the urine ranged between 3790 c.c. and 6740 c.c. The

\*For fuller reports of Cases II, III, IV, VI, and VIII, see Johns Hopkins Hospital Reports, Vol. X, p. 198.

specific gravity was never extremely low, the ranges being 1005 to 1009. The urine was always pale, and was persistently free from albumin, sugar and casts.

A series of metabolism experiments were carried out on this patient, and the results have been elsewhere reported. The most striking feature brought out was that the patient took on 49.77 grams of nitrogen during a period of 18 days and yet weighed 209 grams less at the end than at the beginning of the experiment.

Zinc valerianate was tried as a therapeutic remedy in this case, but without beneficial results. The patient was discharged practically unimproved so far as his diabetic symptoms were concerned on February 3, 1898.

Case VIII possibly had some cerebral disease, but the symptoms were not at all definite. He had a pigmentary choroiditis, and ophthalmoscopic examination showed incipient optic nerve atrophy. The patient is likely to come under observation again, and it will be interesting to note whether the cerebral symptoms progress or not. The existence of subcutaneous fibroid nodules is worthy of note in this case.

CASE VIII: (Gen. Hosp. No. 45118.) Idiopathic diabetes insipidus; duration, three years; history of defective vision since childhood; pigmentary choroiditis on ophthalmoscopic examination; very marked general contraction of the field of vision; incipient optic nerve atrophy; subcutaneous fibroid nodules of the fibrolipomatous type.

B. R., male, white, single, aged 30 years; iron worker, was admitted to the Johns Hopkins Hospital December 28, 1903, complaining of headache, pains in the muscles and bones, and frequent micturition.

His father died of heart disease at 48; mother of tuberculosis at 34. Her maternal grandmother and a maternal aunt both died of tuberculosis. One sister died at 34 of heart disease following rheumatism. A paternal aunt had carcinoma of the breast.

The patient had measles, scarlet fever, mumps, smallpox and whooping-cough when a child. In 1899 he had typhoid. Four years ago he noticed nodules develop beneath the skin of both forearms; they have persisted up to the present. He had dysentery in Cramp's shipyard, in Philadelphia, in 1901. In July, 1903, he had an attack of malaria. During this same month he had a sunstroke and he has suffered a good deal from headaches since. The patient was treated in the Johns Hopkins Hospital (Gen. Hosp. No. 35293) in June, 1901, for a bronchitis which he had suffered from ever since he had an attack of influenza about Christmas, 1900. Since he had his attack of smallpox at four years of age he has at intervals had a discharge from his left ear. His vision as long as he can remember has been defective and the field limited. The ocular symptoms seemed worse since the sunstroke attack. For three years he has been troubled a good deal with bronchitis. He drinks whiskey and beer moder-

ately. He chews and smokes tobacco. He had an attack of gonorrhea in 1894, but denied ever having had syphilis, and no definite history of the disease could be obtained.

The patient's present illness began between two and three years ago. He first noticed frequency of micturition. He had complained of this symptom in June, 1901, when he was previously in the medical wards for bronchitis, but the largest amount of urine for the 24 hours at that time was only 620 c.c. and the lowest specific gravity 1014. The polyuria apparently came on after this date. It was soon followed by increased thirst. Both these symptoms have gradually become worse up to the present time. His appetite became ravenous. He would stop eating, not because his hunger was satisfied, but because he "felt he could not hold any more." Recently he has felt less energetic, and little matters worry him more than formerly. He has suffered a good deal from headache, backache and pains in the bones and joints. His right leg has felt numb and cold. In walking he would often go about on the tips of his toes, not feeling capable at times of putting the heel to the ground. Occasionally he has a tendency to trip up, and says that his gait is unsteady. He has not lost weight, but on the contrary has apparently gained. On his first admission he weighed 146, and he now weighs 176 pounds.

*Physical Examination:* (Dr Campbell Howard.) The patient is a large-framed, healthy looking man. Face is considerably scarred from smallpox pits. Pupils are equal and react to light and accommodation. No tophi in the ears. The mucous membranes are of good color; tongue clear; teeth good. Over the flexor surfaces of both forearms there are several subcutaneous, firm, inelastic, painless tumors, varying in size from a nickel to a 50-cent piece. There is also one at the bend of the left elbow. The skin over the largest is a little reddened, owing to slight dilatation of the capillaries.

The thorax is very large and deep antero-posteriorly. Expansion is good and equal on both sides. Percussion and auscultation are clear throughout both lungs.

The point of maximum cardiac impulse is difficult to locate on inspection and palpation. The sounds are best heard in the fourth interspace well inside the left mammillary line. The relative cardiac dulness is normal in extent. The heart sounds are distant and feeble, but clear at the apex and base.

The abdomen is very prominent but symmetrical. Some fulness in either flank. There are a few scattered capillary angiomas. Superficial veins not dilated. In the lower part of the left iliac region there is an early fibroid nodule. No abdominal tenderness; walls everywhere elastic; no muscle rigidity. The percussion note is dull in both flanks, but does not change with posture. The liver dulness is normal in extent; border of liver is not felt. Spleen not palpable.

The knee-jerks are diminished, but are obtained on reinforcement.

On the day of admission Dr Mills made an ophthalmoscopic examination, and reported as follows: Both eyes show disseminated choroiditis. There is incipient optic nerve atrophy. Floating opacities throughout vitreous humor of both eyes. In the left eye there is a retinal hemorrhage on the outer side of the disk. Right eye, V.= 18/40; left eye, V.= 18/30 with an effort.

On December 30 the field of vision for white was tested, and it was found to show very marked general contraction in both eyes, the left being more affected than the right. There was no permanent or temporary hemianopsia made out at any time during the patient's stay in the hospital.

The blood count on January 2, 1904, was as follows: Red blood corpuscles, 6,400,000; leukocytes, 7600; hemoglobin, 88 per cent.

On January 13 a careful sensory examination was made for pain, touch, and heat and cold, and no disturbances found.

The blood pressure was estimated twice during the patient's stay in the hospital. The systolic pressure on both occasions was 130 mm. Hg. and the diastolic 100 and 80 mm. Hg. with Dr Erlanger's blood-pressure apparatus.

*Urine Examinations:* The urine was measured daily throughout his stay in the hospital, and the daily intake of fluids also. The average amount of urine for 17 days was 5420 c.c., the lowest daily excretion being 3340 c.c. and the highest 8020 c.c. The average intake of fluids was 6300 c.c., being 880 c.c. more than the average excretion of urine; the lowest intake was 5250 c.c. and the highest 7800 c.c. The urine was always of a very pale straw color; the specific gravity was never extremely low, the lowest being 1005 and ranging between this and 1010 on one occasion the average being 1007. The reaction was always faintly acid. At no time were albumin, sugar or casts found. The centrifugalized sediment showed a few pus cells.

During his stay in the hospital the patient had an acute pharyngitis and tonsillitis. The output of urine was smaller during this time than at any other period during his stay in the hospital.

For the last few days that the patient was in the hospital he was placed on tincture ergot, gtt. x., three times a day. It, however, had not had any effect in diminishing the amount of urine when he was discharged at his own request on January 15, 1904, in practically the same condition as on admission.

Owing to the impossibility of determining at all definitely the etiology in this case, it was deemed best to place the case in the idiopathic group. The existence of incipient optic nerve atrophy suggested, however, possible cerebral disease.

No definite etiological factor could be ascertained in Case IX. The luetic infection with secondary symptoms 10 years ago leads to the suspicion that lues may have been the cause. The evidence was too indefinite, however, to place the case anywhere but in the idiopathic group.

CASE IX: (Gen. Dispensary No. 320534.) Diabetes insipidus of doubtful origin, and consequently placed in the idiopathic group; possibly due to syphilis, however.

W. H. C., male, white, aged 34 years; married, granite cutter, was admitted for treatment in the Johns Hopkins Dispensary on April 21, 1902, complaining of excessive thirst and the passage of large quantities of urine.

The family history was unimportant and none of the other members were similarly affected.

The patient did not remember having had any of the usual diseases of childhood. He had inflammatory rheumatism 10 years ago. Seven years ago he had gonorrhea, and three years before this he had a "chancre." He had sores in his mouth some time after the appearance of the initial lesion. He was under treatment for syphilis for two and a half years. Up to one year ago he took about three alcoholic drinks daily, but since the onset of his present illness he has not taken any alcohol. He smokes and chews moderately.

His present illness began in February, 1901, 14 months ago. He noticed first that he had to get up frequently at night to urinate, and passed large quantities of colorless urine. His thirst increased rapidly and was intense. He says that since the onset he passes between three and four gallons daily and would fill a slop-jar during the night. From the beginning he has suffered from intense lumbar pains. He occasionally has neuralgic pains about the right eye, and at times some headache. He sleeps badly. At intervals he is subject to nausea, and occasionally he vomits. These symptoms are apt to occur in the early morning. Previous to the present illness he perspired freely on active exertion, but now the only place where he perspires is about the forehead. His appetite has remained unchanged. Bowels are regular. He has gained in weight.

*Physical Examination:* The patient is of medium height, rather stout, and weighs 170 pounds. General appearance good. Lips and mucous membranes of good color. Tongue clean. The pupils are equal and react to light and accommodation. There is no hemianopsia on rough examination. No Romberg's symptom. There is no general glandular enlargement. Slight pulsation of the vessels of the neck.

The thorax is well formed and symmetrical. Expansion good and equal. The lungs are clear throughout on percussion and auscultation. The point of maximum cardiac impulse is neither visible nor palpable. The sounds are feeble and best heard in the fifth interspace in normal position; they are clear at the apex and base.

The abdomen looks natural. Panniculus abundant. The liver, spleen and kidneys are not palpable.

The examination of the genitalia reveals a distinct scar about one centimeter in diameter just behind the corona of the glans penis on the left side.

The knee-jerks are slightly exaggerated.

*Urine Examination:* The urine on the day on which he came under observation was perfectly colorless. The reaction was faintly acid and specific gravity just 1000. There was no albumin, sugar or casts. The patient made several visits to the dispensary until August 27, 1902. During this time he measured his urine carefully on several occasions, the amounts being 12,500, 16,500, 12,500, 10,000, 11,500 and 13,000 c.c. Specimens always showed the specific gravity to be between 1000 and 1002 and to be free from albumin and casts.

While he was under treatment in the dispensary he was given potassium iodid and mercury without any change in the amount of the urine, but an improvement in his general health. He gained 15 pounds during the five months he was under observation. In August, 1902, he left the city, and has not been seen since.

From the foregoing it will be seen that apparently a large number of etiological factors enter into the causation of diabetes insipidus. Our experience in finding four out of nine cases in this series to be due to syphilis, may have been unusual, but it has convinced us that syphilis is a more frequent cause than is generally believed by the profession. Whether the case belongs to the idiopathic or the symptomatic group it matters not, the determining factor is a disturbance of a secretory function of the kidneys. Gerhardt<sup>15</sup> says that in idiopathic diabetes insipidus "the disease is due to a disturbance of the secretory functions of the kidneys, and not to an increase in the thirst or to blood changes." He draws an analogy between the polyuria in this disease and the hypersecretion of the gastric juice in functional disturbance of the stomach. Osler says that "it results from a vasomotor disturbance of the renal vessels, due either to local irritation, as in the case of an abdominal tumor, to cerebral disturbance in cases of brain lesion, or to functional irritation of the center in the medulla, giving rise to continuous renal congestion."

*Symptomatology:* 1. *Polyuria:* The most characteristic and constant symptom of the disease is the increase in the amount of urine eliminated. Trousseau had a patient, aged 24 years, who voided 43 liters in a day. In a few instances the weight of the urine voided daily practically equalled the weight of the patient. Van der Heijden reports an instance of a girl, aged six years and weighing 19½ pounds, who passed daily from 14½ to 19½ pounds of urine, and Vierordt cites an instance of a child weighing 13.2 kilograms voiding 12.3 kilograms of urine daily. The largest quantity of urine passed by any of the cases in this series was 16.5 liters. The amount passed at an individual voiding may be enormous: Thus one of our patients passed 1700 c.c. at one voiding. The urine is always extremely pale, often as colorless as water,

of fairly acid reaction, and of a low specific gravity, the latter usually ranging between 1000 and 1005. It is to be remembered, however, that when the urea elimination is high the specific gravity of the urine may remain practically normal. Thus Laparguois observed a case in which six liters of urine were passed daily, with a specific gravity of 1017. The urine rarely contains albumin. Occasionally a trace may be present at intervals. Sugar and casts are absent. There has been a good deal of work done to determine whether the patient with diabetes insipidus eliminates the fluid taken more quickly than the healthy individual; in other words, whether a condition of "tachyuria" or "bradyuria" exists. The opinions of those who have investigated the subject vary. Falck, Neuschler, and A. Pribram believe that bradyuria occurs, and F. Kraus holds the opposite view. E. Pribram has endeavored to settle this disputed point, and he is led to conclude that bradyuria exists. The majority of those who have investigated this matter, then, are of the opinion that after a large draught of fluid the increase in the flow of urine takes place more quickly, and the elimination is more rapid in the healthy individual than in the person suffering from diabetes insipidus.

In most cases the amount of urine voided is less than the amount of fluids ingested. In certain instances it appears that the urine may be in excess of the fluids ingested, even when the fluid in the solid food is taken into consideration. It is thought that individuals may absorb moisture from the air. Dickinson found that one patient between the acts of micturition (no food or drink being taken in the interval) gained, respectively,  $15\frac{1}{2}$  ounces in three hours and  $19\frac{3}{4}$  ounces in five hours. As a rule, more urine is voided during the night than during the day.

The following statements may be made regarding the constituents of the urine:

(a) The *urea* is usually excreted in normal amount. It may be increased to 70 or 80 grams daily. These are the so-called azoturia cases. Where the nitrogen is increased in diabetes insipidus cases it is practically always due to the increased ingestion of proteids rather than to increased tissue destruction.

(b) The *sodium chlorid* is usually normal, but occasionally it is markedly increased.

(c) The *phosphoric acid* elimination varies, but is usually within normal limits.

(d) *Albumin* is almost universally absent. It may occur occasionally in a case, just as it is believed to do at times in apparently healthy individuals.

(e) *Sugar* is absent. A number of cases have occurred where a diabetes insipidus has passed over into a diabetes mellitus, and *vice versa*.

(f) *Inosite* has occasionally been found in the urine. It has no practical importance in the disease. Its occurrence is believed to be due to the washing out of the inosite from the muscular tissues by the enormous amounts of fluid taken. It has been found in the urine of healthy individuals after they have taken large amounts of water to drink.

2. *Thirst* is practically constant. It is the symptom which usually attracts the patient's attention first. The question whether in diabetes insipidus the polyuria or polydipsia is primary has been a much disputed one. The majority of observers, including the most recent, incline to the view that polydipsia is primary. Nothnagel's case<sup>16</sup> is usually cited as a typical instance of a primary polydipsia. A man was kicked in the abdomen and fell against a stick of wood, striking his head in the region of the right ear. He was not rendered unconscious, but was dizzy. Half an hour after the blow the patient developed intense thirst and drank three liters of water, and it was not until about three hours later that the first urine was voided. The thirst is sometimes perfectly insatiable, and, as one of the present series expressed it, he "simply lived to drink." When the patients have been cut off from water they have frequently drunk their own urine. The amount of fluids taken may reach the enormous total of 50 liters daily, as in Troussseau's case. Buttersack gives the following conditions as indicating a primary polydipsia in any particular case: 1. There is normal sweat secretion. 2. The urine is less than the amount of fluids. 3. The polyuria ceases on cutting off the fluids drunk. 4. The urine elimination and the amount of liquids taken run parallel.

3. *Absence of sweating* is the customary rule. The insensible perspiration is also diminished. This has been found by Strauss, Flatten, and Strubell. The formula for determining the insensible perspiration during a given period is as follows: (Weight at the beginning + intake) — (weight at the end + output) = insensible perspiration. It has been found to be about half that in a normal individual.

4. The *appetite* is usually poor. Nausea and vomiting are not infrequent. Occasionally the appetite is enormous, as in Troussseau's case, where a patient with diabetes insipidus frequented a restaurant where the bread was not charged for, and was paid by the restaurant keeper to stay away, owing to the enormous quantity of bread that he ate.

5. *Constipation* is the rule. This is due to the absorption of fluids from the intestinal tract.

6. *Ocular changes* occur. Cataract has been noted. Case VII had double xanthoma palpebrarum. Case VIII had a pigmentary choroiditis. Cases III and VIII had incipient optic atrophy, and Case V advanced optic atrophy of the right eye, with total blindness on that side.

7. *Headache* is often a very distressing symptom. It is most marked in the cases with cerebral disease, but occurs even in those without. It was a striking symptom in six of our nine cases.

8. *Lumbar pains* of a very intense character are often present.

9. *Impotence* very frequently occurs, but occasionally returns in the luetic cases in which improvement in the nervous features occurs.

10. *The blood* shows but little change. Strauss and Stoermer found the specific gravity increased. The blood count varies but little from the normal. There was slight polycythemia in one of our cases, the red cells being 6,400,000 per c.mm.

11. *Loss in weight* occurs frequently at the onset. It is most rapid and marked in the secondary or symptomatic cases. Often there is no loss of weight for years in the idiopathic cases.

12. *Edema of the feet* is a rare symptom, but has been described. It usually occurs in the late stages of the disease in the asthenic, emaciated cases. There was a history of it in two of our cases.

13. Unlike diabetes mellitus, the *knee-jerks* are often exaggerated. In the present series they are exaggerated in five, normal in one, diminished in two, and not noted in one.

14. *Metabolism* does not seem to be much disturbed, notwithstanding the excessive flushing of the tissues with fluids. Most of the features in connection with the metabolism have been referred to under Division 1. In one of our cases (No. VII\*) I made a study of the metabolism during a period of 18 days. The nitrogen balance-table showed that the patient added 49 grams of nitrogen to his body during this period, and yet weighed 200 grams less at the end than at the beginning of the period.

*Prognosis:* The course of the disease is largely dependent upon whether the case belongs to the idiopathic or the secondary group. In the idiopathic form the general health is rarely impaired to any great extent. The patients lose weight for a few weeks after the onset, but later they retain their weight, and many

\* For a full report of the studies of metabolism in this case, see the Johns Hopkins Hospital Reports, Vol. X, p. 218.

of them look comparatively healthy and robust. The form has been known to last for fifty years. If the diabetes be due to some organic disease of the brain or of the abdominal viscera, the patients are liable to lose weight rapidly, and the general health quickly becomes impaired. Death is much more likely to take place at an early date in these cases than in the idiopathic ones. The duration of life is largely dependent upon whether certain vital structures are involved or not.

*Diagnosis:* Chronic intestinal nephritis with abundant, pale urine of a low specific gravity may very closely simulate diabetes insipidus. Careful and repeated examinations of the urine, with the finding of traces of albumin and a few hyaline and granular casts, should readily differentiate the former. The absence of sugar and the low specific gravity exclude diabetes mellitus. The question as to whether the disease should be differentiated from the hysterical polyurias seems to be a debatable one. In many of the monographs on diabetes insipidus the polyuria of hysteria is included as one of the clinical forms. Usually it is placed in the symptomatic group. Personally I am opposed to this conception. In these cases of the disease the patient is suffering from hysteria, of which the polyuria is a symptom. As a general rule, the hysterical polyuria is transitory, and there are usually nervous and psychical phenomena present which render the cause of the polyuria clear. It must be admitted, however, that it is difficult to draw a hard-and-fast line between the two affections. Some writers have attempted to classify those cases in which thirst is the first symptom as a separate and independent disease, applying the name "primary polydipsia" to these cases. The advisability of recognizing these cases as constituting an independent disease seems doubtful, for, as we have seen, it appears probable that the polydipsia antedates the polyuria in most cases of diabetes insipidus.

*Treatment:* The treatment is most unsatisfactory. It is useless to restrict the amount of fluids, as it only distresses the patient and causes no permanency in the diminution of the polyuria. The great number of drugs that are recommended in this disease is ample evidence of the general inefficiency of the therapeutic remedies used. Preparations of opium have been used with some benefit. The relief is probably due to the lessening of the sense of thirst. The commonest sedative in use is valerian. Either the powdered root, given at first in five-grain doses three times daily, and increased until the patient takes as high as two drachms daily, or the valeriante of zinc in 15-grain doses, increased to 30 grains three times a day, may be administered. Ergot, in various

preparations, has in some cases given fair results. The bromides, salicylates, and antipyrin have been tried, but the results on the whole have been unsatisfactory. Galvanization of the spine has been advocated. W. F. Clark used adrenal extract with benefit. In one of our series it was given, but failed to produce beneficial effects.

In cases suspected of being due to syphilitic disease of the brain, potassium iodid, or mercury, or both together, should be given a good trial. All four of our syphilitic cases showed marked improvement in the cerebral manifestations and in the general health, with striking gains in weight. In only one case was there any marked diminution in the polyuria; in another the diminution was slight. I know of no instance in which the polyuria has entirely disappeared under potassium iodid. The good effects of the drug are manifested in the relief of the nervous features and in the improvement in the general health. The polyuria may be lessened, but too much must not be expected from the drug in this direction.

#### SUMMARY

Experiments on dogs and rabbits have taught us that a simple polyuria is produced most frequently by lesions of the brain in the following situations: (a) By injury of a point in the floor of the fourth ventricle a little anterior to Claude Bernard's glycosuric center. (b) By injuries to various portions of the middle lobe of the cerebellum. (c) By lesions of the corpus trapezoides of the pons and the lateral part of the exposed portion of the middle medulla oblongata. In rabbits a permanent polyuria follows lesions in these situations, as demonstrated by Kahler. These areas of the rabbit's brain correspond in the human brain with the portions of the pons where the sixth and seventh cranial nerves make their exit at the base.

Clinically, we recognize two groups of cases of diabetes insipidus: (a) The idiopathic or essential cases—those without evident cause. (b) The secondary or symptomatic cases—those referable to some organic lesion or due to some recognizable cause. There are certain border-line cases in which it is difficult to say to which group they belong.

Tumors of the medulla and floor of the fourth ventricle, cerebral traumatism, including cerebral hemorrhage and basilar meningitis, are the commonest organic lesions causing the disease. Whereas our experience in this series may have been unusual, it would strongly indicate that cerebral syphilis is a cause in a much larger percentage of cases than is generally supposed. The syph-

ilitic lesion may be a gumma, but it is probably often a basilar syphilitic meningitis. A recurring or fugitive bitemporal hemianopsia in a case of diabetes insipidus is strong evidence in favor of the disease being due to syphilis and of the lesion being a basilar syphilitic meningitis. When one reflects how easy it is to produce polyuria experimentally by various injuries at the base of the brain, it is not difficult to understand why a basilar meningitis of syphilitic origin may also produce a polyuria in man.

In 15 years there were seven cases of diabetes insipidus admitted to the Johns Hopkins Hospital and Dispensary out of a total of 403,535 patients admitted to all departments of the institution, or 0.001 per cent. of the total. Of 17,042 cases admitted to the medical wards under Dr Osler there were six cases, or 0.03 per cent.

Of the nine cases here reported four belonged to the idiopathic group and five to the secondary or symptomatic group. All of the latter showed very striking cerebral manifestations, and four of them were undoubtedly syphilitic in origin.

Thirst appears to be the first symptom complained of in the majority of cases, and the balance of opinion favors the view that polydipsia precedes the polyuria in most of the cases. The knee-jerks are usually exaggerated, contrary to the usual findings in diabetes mellitus. In our nine cases they were exaggerated in five, diminished in two, normal in one, and not noted in one. All the cases with exaggerated knee-jerks had cerebral manifestations. As yet no striking and constant metabolic disturbances have been found.

We are still very much in the dark as to the true nature of the disease. It seems to be caused by "a vasomotor disturbance of the renal vessels, due either to local irritation, as in the case of abdominal tumor, to cerebral disturbances in cases of brain lesion, or to functional irritation of the center in the medulla, giving rise to a continuous renal congestion" (Osler).

There is no constant anatomical finding at autopsy characteristic of the disease. The most frequent changes are enlargement of the kidneys, congestion of the vessels, and dilatation of the tubules. In the secondary or symptomatic cases the organic lesions causing the disease are variable.

The prognosis is good in the so-called idiopathic cases, the disease not tending to shorten life. It is graver in the symptomatic cases, emaciation and general weakness often developing rapidly. Death may occur early in the latter group.

The treatment in the majority of cases is very unsatisfactory.

Opium, ergot and valerian may effect an improvement, but the benefit is usually temporary. The cases which appear to do best are those of luetic origin. Antisyphilitic treatment usually promptly relieves the cerebral manifestations and improves the general health and nutrition (Cases III, IV, and V). Although potassium iodid may cause a decided diminution in the polyuria and polydipsia (Cases IV and V), it is seldom that these symptoms are completely relieved. Too much must not be expected from the use of antiluetic remedies from this standpoint, however. We are more likely to help the polyuria and thirst in the cases due to lues than to any other cause. The most striking effects, however, are manifested in the improvement in the cerebral manifestations and in the gain in weight after the patients have been placed on the antisyphilitic treatment.

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## Phlyctenular Ophthalmia

BY ALBERT RUFUS BAKER, M. D., CLEVELAND, OHIO

Stephenson\* says "that more than twenty percent of the children applying for relief at children's ophthalmic hospitals suffer from phlyctenular ophthalmia." It is the usual form of ulceration of the cornea in children who have been weaned, but is seldom seen in nursing children or adults.

Text-books usually treat this affection under two separate heads: First, as a conjunctival disease, and second, as a disease of the cornea. This must be more or less confusing to the student,

\**British Medical Journal*, October, 1900, page 1023

as it would be about as rational to treat separately disease of the lids, or of the nose, both of which are frequently affected in this affliction. The disease is usually described as "phlyctenular, scrofular, lymphatic, eczematous" or "pustular conjunctivitis, or keratitis," as the case may be. It would seem to be more rational to make use of some general term that would imply a concept of the entire affection until such time at least as we have established more positive data as to its etiology, and it seems to me that the general term "phlyctenular ophthalmia" is the most available.

There is some objection to the term "phlyctenular" as vesicles are rarely formed, and if they contain liquid at all, it is turbid. But, notwithstanding this objection, it would seem to meet the requirements as well, if not better than any other term that has been suggested. Arlt is responsible for causing some confusion in the nomenclature of this disease. While he properly described the affection when the conjunctiva alone was involved as a phylctenular conjunctivitis, he described what is now almost universally recognized as interstitial keratitis, as scrofular keratitis. So much diversity of opinion exists as to the etiology of phlyctenular ophthalmia that I submit herewith a list of causes that might easily be extended, suggested by the discussion of Doctor Gradle's paper on "Scrofulous Keratitis," published in the transactions of the Section on Ophthalmology, of the American Medical Association, in 1900.

Scrofula, tuberculosis, indigestion, measles, syphilis, teething, rhinitis, worms, poor blood, lymphatitis, eczema, rheumatism, whooping cough, malaria, adenoids, error in refraction, filth, etc.

Stephenson\* presented some interesting statistics in the paper mentioned above, gathered from three English institutions. He found that of 669 cases examined there was evidence past or present of eczema in 355; there was a tubercular tendency (enlarged cervical glands, etc.) in 214 cases; whooping cough was assigned as a cause in 70 cases; measles in 9 cases, and chicken-pox and scarlet fever each 3 cases. Stephenson concluded that "phlyctenular disease is remotely due to a tubercular diathesis, and immediately to an eruption of eczema on the eyeball." I believe this expresses the consensus of medical opinion as to the etiology of the disease today, and I believe with J. S. Ray† "that the greater number of eczemas of infancy occur in connection with affections of the gastro-intestinal tract," and are due essentially to indigestion and malnutrition.

\**Ibid.*

†Jahrb. f. Knabenheilk., Bd. LVIC.

Phlyctenular ophthalmia is characterized by the appearance of minute nodules on the conjunctiva or on the corneal epithelium. These may be single or multiple, and in size from that so small that they can not be seen with the naked eye, up to that of a pin's head. A leash of conjected conjunctival vessels extends to each phlyctenule, and points as an index to the source of the trouble. Often the blepharospasm and photophobia is so great that it is impossible to see the cornea, but the clinical symptoms are so characteristic that the affection is easily recognized. The child, if old enough to walk, usually comes to the clinic carrying a piece of candy, a piece of cake, or a banana in one hand, holding on to the mother with the other, and burying its face in the mother's apron. These children have the most irascible temper, and they rule the house whether it be a palace or hovel. They live on sweets, and if they don't get them they resort to crying, yelling and even go so far as to fight, scratch, and bite to obtain them. The photophobia is so extreme that in many cases they will go days and even weeks without opening the eyes, so that I was not much surprised to receive a note from a country physician some years since with one of these little patients, stating that he was well aware that the child had been totally blind for several months, and that the cornea was entirely opaque, but that he thought it would be some satisfaction to the parents to have the opinion of a specialist. Yet when I gave a whiff of chloroform and opened the eyes, I found the cornea of each eye perfectly clear, with only one or two phlyctenules so small that they could hardly be seen. In many cases there will be found eczematous patches about the lids, and often there will be more or less of a rhinitis with abrasions of the upper lip.

We have no evidence that the disease is contagious, although there is sometimes apparent evidence of auto-infection, as may be seen in eczematous patches upon the back of the hand with which the child constantly rubs the affected eye.

Most of these children are anemic but not necessarily thin. Indeed, many of them are fat but flabby. Enlarged cervicals and other symptoms which the older writers recognized as scrofula are present in a large number of cases.

The characteristic phlyctenular nodule will run its course and recover in ten days to two weeks, but the disease is perpetuated either by recurring crops, or by the infection of one or more of the phlyctenules, which then becomes an ordinary ulcer of the cornea and pursues a tedious course, such as an infected corneal ulcer from any other cause would do in an ill nourished child. It seems to me that the classification as made by many writers,

into two forms of the disease, in one of which photophobia and blepharospasm are present, and the other in which we have a simple ulcer of the cornea without these symptoms, is unnecessary.

After considerable experience in the treatment of these cases I have come to look upon them essentially as due to indigestion, and malnutrition mostly the result of the use of improper food. Among the Irish and many native-born Americans the excessive use of potatoes is largely to blame, doubtless due to the excessive amount of starch, which very young children are unable to digest, and older ones digest with difficulty. Among the Germans and many other of our foreign population the giving to these children of beer and coffee to drink in excessive quantities is largely to blame for causing the disease. Among the children in the better walks of life the cause may be traced to the excessive use of candies, cakes and other sweets, especially when children are left to the care of servants. In fact, it is a disease of the two extremes of life,—either those who have too much or too little to eat. The result in either case is the same,—indigestion.

Since I have come to recognize indigestion as the etiologic factor, I have found the treatment of these patients very satisfactory indeed, and it consists essentially in correcting the diet, and prescribing intestinal antiseptics. I usually commence treatment by prescribing calomel and soda, following it with bichlorid, iron, arsenic and strychnia, confining the child at first to strictly milk diet, gradually adding a few other simple foods, as in my judgment seem best. These children suffer almost always from constipation with recurring attacks of diarrhea. I believe that the bichlorid of mercury has almost specific value in these cases. I fully agree with the observations of Dr H. D. Brunes,\* "that the number of red blood-corpuscles may be increased by the proper exhibition of this salt, and any one may convince himself that these children will gain in weight and rosiness under its use," especially when combined with arsenic. In order to prevent relapses, I always furnish the parents with a diet list, and all articles of food not marked are positively forbidden. The following is a copy of the list which I have used, and no doubt might be greatly improved; however, it has answered my purpose exceedingly well:

#### DIET LIST

All articles of food not marked are positively forbidden:

Ale,	Arrow-Root,	Beans,	Beef, Roasted,
Anchovy,	Bacon,	Beef, Broth,	Beef Steak,
Apple Fritters,	Barley,	Beef, Corned,	Beef Tea,
Apples,	Barley Water,	Beef, Dried,	Beef Tongues,

\**New Orleans Medical Journal, August, 1900.*

Beer,	Cole-Slaw,	Molasses,	Rabbits,
Beets,	Cucumbers,	Mush,	Raisins,
Berries,	Dates,	Mushrooms,	Rice,
Bologna Sausage,	Doughnuts,	Mutton,	Rice Water,
Brandy,	Dried Rusks,	Mutton Broth,	Rolls, Hot,
Bread, Corn,	Ducks,	Nuts,	Salads,
Bread, Graham,	Dumplings,	Oat Meal Gruel,	Sardines,
Bread, Rye,	Eggs,	Onions,	Sauer Kraut,
Bread, Rye, Sour,	Egg Plant,	Oranges,	Sausage,
Bread, Wheat,	Egg Nog,	Oysters,	Short Cake,
Buckwheat Cakes,	Figs,	Panada,	Smearcase,
Butter,	Fish,	Parsnips,	Squirrels,
Butter Milk,	Gin,	Peaches,	Sugar,
Crackers,	Goose,	Pears,	Tapioca,
Cracked Wheat,	Grapes,	Peas,	Tea,
Cabbage,	Grits,	Pickles,	Toast,
Cakes,	Ham,	Pies,	Tomatoes,
Cantaloup,	Hominy,	Pine Apples,	Turkey,
Celery,	Honey,	Plums,	Turnips,
Cheese,	Ice Cream,	Pork,	Veal,
Cherries,	Jellies,	Porter,	Vegetable Soup,
Chickens,	Lemonade,	Potatoes, Irish,	Venison,
Chocolate,	Lettuce,	Potatoes, Sweet,	Vermicelli,
Cider,	Liver,	Pot Pie,	Waffles,
Clams,	Macaroni,	Preserves,	Watermelons,
Coffee,	Milk,	Puddings,	Wine,
Corn, Green,	Milk Punch,	Puddings, Meat,	Wine Whey,
Corn Starch,	Milk Porridge,	Prunes,	Whiskey.

I have long since come to the conclusion that local treatment is of little or no value in these cases, and many times it does harm. I have never seen the slightest benefit from the use of the time-worn remedy, yellow oxide of mercury, as it only adds irritation to an eye that is already extremely sensitive, and not infrequently does harm. The same I believe to be true of calomel, or any of the other numerous mercurial preparations. At one time I thought atropia was beneficial, but I have of late years come to think that by dilating the pupil and admitting more light, the increase of the photophobia more than overbalances any good that may be accomplished. The instillation of remedies like boric acid, while harmless in themselves, do damage in the struggle which is made to use them, so that if I prescribed any local remedy, it is because of some complication or as a placebo. If there is an error of refraction correct it. If there is an ulcer treat it as in any other case—cautery, compress bandage, hot water. If there is a catarrhal condition and the least muco-purulent secretion use protargol. If there is eczema of the lids, face or lips, I use the oxide of zinc or tar ointments. If rhinitis is present I have found great benefit from the use of menthol, camphor and vaseline sprays. If there are adenoids, or enlarged tonsils, I remove them. If the child is thin and anemic, give bichlorid, iron, arsenic and strychnin internally. If the child is fat and flabby, with enlarged cervical glands, give syrup of iodide of iron. I have found little use for cod liver oil, except in those children who refuse to eat butter and drink milk, I supply them with fat in the form of cod liver oil, but the child usually finds the butter more palatable, and, as I believe, better.

## Eye-Strain and Reflex Disturbances

BY EDWARD PAYSON MORROW, M. D., CANTON, OHIO

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The confusion existing in the mind regarding eye-strain and the wearing of glasses is not wholly confined to the laity. When one remembers that the scientific knowledge of errors of refraction is of recent origin, and that its application through surgery dates back not longer than 30 years, no physician devoting his attention to general work and study need feel ashamed that he does not know all that is known today about errors of refraction and muscle imbalance or their correction.

Not many years ago it was generally believed that the eye was an exception to the physiologic rule, that no organ is ideal; that while other organs might not be perfectly adapted to the function they were called upon to perform, the eye was created perfect. It was considered almost a heresy, when it was begun to be taught, that although the eye is beautifully adapted to the requirements demanded of it as an organ of vision, as an optical instrument it is very imperfect.

The eye commands our admiration for whatever force has brought it into being; so beautiful, so delicate and so fitting for the grand function it is called upon to perform. Here before us is a living miracle. By the poet, its praises have been sung since time began. By the priest, it is called the window of the soul, and by everyone, the eye, as an organ of sight, appeals as no other organ of our body to our higher sense of divine fitness. No wonder there was dissent when the eye, about which so much sentiment has gathered, was attacked by the firm hand of fact, for it is established today, that this organ is no exception to the physiologic rule of imperfection, and as an optical instrument it is a very defective one.

No maker of optical instruments could thrive who would turn out microscopes, telescopes, opera glasses or cameras, with all the imperfections that are found in the eye. This, however, does not detract in the least from the marvel that still attaches to the eye as an organ of sense. That so imperfect an instrument can receive impressions that are converted into thought and perception, only adds to our wonder and admiration.

It is with these imperfections and of what has been accomplished by their correction, that I wish to speak tonight. My aim will be to make my thoughts practical. Most of the results

that have been obtained in the correction of errors of refraction and of muscle insufficiency are empiric, so that to consider the subject theoretically, would, if it were in my power to do so, leave the discussion about where we began. Theories will be touched upon only as they may aid in making the subject plain.

It is fairly well understood that headaches, vertigo, confusion of ideas, nausea and many allied symptoms, as well as functional disturbances of remote organs, can have their origin in eye-strain. I find it is not an uncommon belief that it is necessary that one suffering from these symptoms must have decidedly bad vision in order to consider the eye as a causative factor in their production. It is not unusual to learn from patients suffering from uncontrollable headaches that their medical attendant had used the test-card of Snellen and finding their vision normal, told them that their eyes were sound and that they need not look upon them as a cause of their suffering.

Now, the first practical point I wish to bring out is that individuals with imperfect sight rarely, if ever, suffer from the effects of eye-strain, for the simple reason that they do not strain their eyes in the sense in which eye-strain sets up its train of symptoms. Excluding a disease of the eyes, imperfect sight is usually due to myopia, and individuals with myopia do not have eye-strain. The accommodation in myopia is not called into action. If it is not myopia, it is one of the high grades of hypermetropia or astigmatism that is producing imperfect sight, an error so great that the accommodation makes no effort to maintain a correction; hence there is no eye-strain, except in rare instances. The field then in which we find our sufferers is in that class of individuals *who have low grades of hypermetropia and astigmatism, those who can and do maintain constant accommodative control of their error and therefore have normal vision.* This rule holds good as well for muscle insufficiencies. Any insufficiency so great that the muscles refuse a constant tonic correction seldom, if ever, produces reflex disturbances. You can readily see that if these are facts, in order to say how much the eye has to do with reflex disturbances complained of, the testimony of the patient regarding sight is of absolutely no value whatever in arriving at the cause. Equally of no value is the testimony of the incompetent observer. Most patients suffering from eye-strain refuse to believe that their eyes can be at fault, and not a few physicians hold the same opinion, if they find the sight normal. Look for your eye-strain cases among those with normal vision, who have a train of reflex symptoms referable to this cause.

Dr Julian Chisholm, of Baltimore, was the first to point out that relief of reflex disturbances accompanied the correction of astigmatism so low, that a howl of derision went up against him, from the oculists throughout the length and breadth of the land. That any man of his distinction should promulgate such a doctrine to intelligent beings was to insult their intelligence. It sounded like quackery, and Chisholm almost lost caste because he fitted glasses that his confrères at that time called plain glass, just as the spectacle vender does when he must sell a pair of glasses, even if he does not know what the trouble is. It was not long, however, until other workers came forward and supported his testimony. Today it is orthodox belief that no error is so low that, given certain symptoms, we may not expect relief by its correction. With this knowledge came the very important corollary, that if very low grade errors can set up reflex disturbances, then errors of a higher grade must be fully satisfied in the correction, or, if not fully covered, there would be a remaining low grade error still acting as a cause. This explained many failures to obtain good results. It resulted also in more careful and accurate work. It resulted in the belief that it is the *error*, and not the *degree* of error, that sets up the trouble and the necessity of fully satisfying the error in the correction. This is one of the most important practical advancements in our knowledge of refraction today. The wide-spread good results that have followed this advance, is taking out of the hands of incompetent observers and practitioners this work of refraction and placing it on a plane where it belongs, as one of the most important and delicate operations in surgery, both in the matter of diagnosis and the application of remedies for its correction.

The results obtained through better and more accurate work in this field has also strengthened our theories concerning errors of refraction and muscle insufficiency as causes of reflex disturbances, for the good reason that the percentage of reflex disturbances relieved is larger than any other one source from which reflex disturbances are known to arise.

The theory is that the constant expenditure of nerve energy required to hold accommodation up to the point where physiologic vision obtains, draws upon nerve force that should be supplied to other parts to maintain a harmonious relation of the normal reflexes and subconscious acts. In other words the distribution of energy is unequal, too much force is being sent in one direction, so that the physiologic relation of normal distribution is disturbed, resulting in suffering to other organs

within the circle in which the eye plays its part as an end organ. The suffering is expressed as constant pain in the related circle, or in explosions known as nerve-storms, in which the economy seems to reach the limit of its endurance, then stays the process until nature can adjust the disturbed relations again, only to result later in a like revulsion. Sick and nervous headache is an example of this condition and closely allied to it is epilepsy. Not all individuals are affected alike. Some will have constant pain over the eyes and in the temples, some have occipital pain. Some individuals complain of pain in the cervical region radiating into the shoulders and down the arms. Some are affected by scintillations and scotoma, followed by vomiting and headache. Some have nausea and vomiting without head pain. Indeed any part of the organism may be affected in the neurotic subject in which brain impulses are required to carry on satisfactory work. These conditions and symptoms are usually aggravated by eye work. Over use of the eyes at close and fine work, or the use of the eye for unaccustomed performances such as in travel, in looking at the passing landscape, or in viewing picture galleries, or viewing processions or parades, will cause an increase of symptoms or an outbreak in a nerve-storm following.

Oliver says: "It (eye-strain) includes the class of subjects in whom the subconscious acts have been learned early in life, but give way by reason of some disturbance having its beginning either in the organ itself or in the general system. Such disturbances render the necessary automatism so irregular as not only to provoke improper physiologic results, but also to help fasten injurious consequences upon the organ itself, as well as those belonging to more or less remotely related organs.

"This can be better understood when it is considered how many of the intracranial nerve trunks attach themselves to both motor and sensory portions of the two ocular bulbs and that there are an incalculable number of association fibres brought into play during the interfunctionating of the two organs. These structures, highly vascular in character, that are linked together by plexus, nerve, ganglion and neuron, that perform the highest types of combined sensory and motor action, soon make it evident that faulty focus or faulty muscle action, with imperfect impression and disturbed harmony of dual action of the two end organs, may not only act as precursors, but also serve to give origin to some of the most common functional and organic neural disorders."

This brings me to the practical conclusion, namely, the

remedy and its proper application. I will consider only the correction of errors of refraction, for the reason that the same philosophy is involved in the correction of muscle insufficiency. Now, that a correction of these anomalies is a remedy in this category of troubles is one of the established facts today, and the remedy is *to neutralize the error, to completely satisfy it.* To cover it so that the eyes work in a harmonious physiologic relation. The correction of errors of refraction by glasses is the only place in surgery where an artificial appliance resolves a defective organ into a physiologic one. Glasses are sometimes likened to crutches. There is no similarity whatever. Crutches are worn to help out a defect or to give rest while a diseased or injured part restores. Glasses restore a lacking factor, they resolve a state of irregularity and tension into a normal condition of rest and harmony. Glasses are applied then in these cases not to improve sight, but to supply to the eye what accommodation must accomplish by an enormous waste of energy and accompanying suffering.

When viewed from this standpoint, the fitting of glasses becomes one of the great surgical procedures and occupies a plane on an equal footing with other surgery, where its proper performance requires intellect, skill and training.

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## A Case of Cesarean Section with Torsion of Uterus, due to Ventrofixation

BY DRs H. H. POWELL AND F. E. BUNTS

The patient, Mrs F., aged 27, was admitted to St. Ann's Maternity, July 22, 1904. She has had four children. All of her labors have been normal; her last child was born in 1898. In 1899, five months after the birth of her youngest child, she was operated for ventrofixation of the uterus. Since this operation she has had a slight flow every two weeks and has suffered with more or less pain in the hypogastrium and lumbar region. On admission the patient showed great debility with marked depression. On examination it was estimated that she was about the fifth month of pregnancy. The measurements of the pelvis were as follows: Interspinous, 25 c.m.; intercrestal, 29 c.m.; external conjugate, 21 c.m. Inspection of the abdomen revealed the median line of the old incision, about eight inches in length, deeply depressed and apparently firmly adherent to the uterus.

It was decided to build up the general health of the patient and to be governed by developments. The patient's general condi-

tion steadily improved notwithstanding continuation of the pains and occasional flowing. During the first days of November the lumbar and hypogastric pains became wearing upon the patient and I decided to interrupt gestation. On November 5, my assistants, Drs Houck and Storey, introduced a bougie into the uterus. The cervix was found turned back against the sacrum. Chloral was administered to relieve the pain. On account of the failure to induce uterine action bougies were introduced on November 6 and 7. On the following day, as no progress had been made, I decided to dilate the cervix with my hand and deliver with forceps or by turning according to indications. The child was living and presented by the vertex in the first position. This had been determined by abdominal palpation chiefly. The uterus had failed to respond to the introduced bougies on account of its firm adhesion to the abdominal wall; that is to say, it could not perform the usual necessary movements required of it to bring on dilatation of the cervix and expulsion of the child. It could not rise up from the spinal column, giving an increase of its perpendicular diameter at the expense of its transverse, which movement is always observed at the commencement of peristaltic action. The womb was in a state approximating tonic contraction.

The patient was placed upon the operating table and put under the influence of chloroform. I passed my hand into the vagina and endeavored to dilate the cervix with my fingers. It took but a short time to discern most unusual and unsurmountable difficulties. Although complete softening of the cervix existed, my fingers seemed to plow through uterine tissues in order to touch the presenting parts. After making continuous efforts at dilatation as seemed judicious, and requesting Drs Thomas and Houck to examine the unusual cause of obstruction, I decided that cesarean section was required for the safety of mother and child, and immediately requested Dr F. E. Bunts to perform the operation.

#### OPERATION BY DR BUNTS

The patient, Mrs F., referred to me by Dr Powell, had been examined by me nearly five months previously at the request of Dr N. M. Jones to decide whether or not, in view of the apparent fixation of the uterus, it was safe to let the pregnancy go on to full term. We were not able to get from the patient any clew as to what the exact nature of the operation five years previously had been, and it was my judgment that it was best not to interfere at that time, for if it were a ventro-suspension she would proba-

bly go through her labor all right, and if not, a cesarean section could be performed if necessary.

In order that her symptoms might be carefully watched and any emergency promptly met, Dr Jones later had her removed to St. Ann's, where she remained under the care of Dr Powell until November 11, when she was operated upon by me at Charity Hospital.

After the primary incision through the very much attenuated abdominal wall the uterus presented itself, attached to the abdominal wall at a point about six inches from its fundus, by a very short, broad ligament, probably one and a half inches in breadth. Attached to this ligament also was a portion of the omentum. I severed the ligament and detached the adherent omentum.

Before making the uterine incision the hemorrhage was controlled by an assistant pressing upon the broad ligaments. An incision from just below the point of attachment of the band of adhesion was made, extending nearly to the fundus of the uterus. After cutting through the uterine tissue the placenta presented itself but was easily detached at its edges, and grasping the child by the thighs and buttocks it was rapidly delivered.

The uterine cavity was swabbed out with a bichlorid solution and a continuous chromicized catgut suture was used for suturing the mucous coat. Deep silk sutures, extending from a half inch on each side of the external uterine wound to within a short distance of the mucosa, were passed, and then owing to the failure to get prompt uterine contractions, and the persistent tendency to hemorrhage, an interrupted layer of chromicized catgut sutures was passed through the uterine walls, about midway in depth. The silk sutures were then tied and the peritoneal edges approximated by a running catgut suture.

On manipulation the uterus gradually began to contract, and much to the surprise of all of us, made a complete rotation on its cervical axis, so that what we thought was the anterior wall, that is the wall through which we had cut, became the posterior one, showing that the uterus had been twisted on its long axis, the fundus having escaped in the process of enlargement from beneath the band of fixation and rotated about this as a center. The silkworm gut used for fixation five years previously was found in the band of adhesion.

The recovery was not attended by any unusual phenomena though I had feared that the incision having been through the posterior wall might cause intestinal adhesions that would prove troublesome, and to avoid this, in a measure, had spread the

omentum carefully between the intestines and posterior uterine wall. The baby was allowed to nurse after the second day, and both mother and child left the hospital at the end of three weeks.

Ventrofixation has necessitated in a number of instances the performance of a cesarean section, and Dr Frank W. Lynch, in the May, 1904, *Bulletin of the Johns Hopkins Hospital*, has carefully gone over the records of 20 cases of cesarean section for ventrofixation, and to this has added one case of his own, the total number of maternal deaths being eight, or 38%, and the infant mortality was the same, though in three cases the result so far as the infant was concerned was not recorded.

In going over the accessible literature, I have been able to find but one other case, that reported by C. W. Higgins, in the *Providence Medical Journal*, 1904, in which ventrofixation two years previously, in a woman 33 years old, and the mother of five children, was followed by cesarean section; the pelvis in this case being normal, but the presentation was transverse, and attempts at version, craniotomy and embryotomy were made before the section was performed. The mother recovered from the operation. I am unable to find in any of these cases reference to a condition analogous to the one herewith reported, nor is it suggested in Kelley's tabulation of serious complications. Certainly it must be an exceptionally rare occurrence, and I am unable to account for it except on the supposition, which seemed to be corroborated by operative findings, that the fixation had been made between the posterior wall of the uterus, at a point some distance posterior to the fundus, and the abdominal wall, and that as the uterus grew with the foetal development, the fundus which was relatively free gradually slipped out from behind the band of fixation adhesions, and as it still further increased in size, necessarily from its slanting position and peculiar point of fixation, was obliged to rotate on its long axis till the posterior wall became the anterior. The inability to obtain permanent dilatation either by the introduction of bougies or even by the introduction of the hand, which Dr Powell experienced, as well as the peculiar sensation of passing through uterine tissue in attempting to insert his hand, is easily understood in the light of the condition of torsion of the cervix revealed by the operation. The wisdom of advising a cesarean section instead of attempting a high forceps delivery was also strikingly demonstrated, for, in view of this anomalous distortion of the cervix, rupture of the uterus and probable death of the mother and child would have been the result.

## Anti-Tuberculosis League of Cleveland

The following are the officers and committees thus far appointed of the Anti-Tuberculosis League of Cleveland: President, Dr John H. Lowman; first vicepresident, Dean Chas. D. Williams; second vice-president, Martin A. Marks; third vicepresident, Mrs. Worcester R. Warner; treasurer, A. L. Withington; secretary, Dr W. H. Merriam, Osborn Bldg.; assistant secretary, Howard J. Strong, Chamber of Commerce.

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**Sanitoria**—M. A. Marks, chairman, Samuel Mather, H. R. Cooley, Dr C. F. Hoover, Dr W. T. Miller.

**Dispensaries**—Dr G. W. Moorehouse, chairman, Dr H. L. Sanford, Dr W. O. Osborn, Dr M. J. Lichty.

Contributions may be sent to Mr A. L. Withington, Society for Savings, City.

# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
{ THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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OFFICE, 260 EUCLID AVENUE

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## EDITORIAL

### The Anti-Tuberculosis League of Cleveland

The Anti-Tuberculosis League of Cleveland was organized in the Library of the Chamber of Commerce, Friday, March 3.

In October of 1904, the Associated Charities, Visiting Nurse Association and Tuberculosis Dispensary of the Western Reserve Medical College combined for the purpose of doing practical work against tuberculosis; the Dispensary was to register and advise the patients; the nurses were to visit the patients in the homes and the Associated Charities to provide material aid.

In four months the work grew to such an extent that it was evident that this provisional league could not cope with it, a meeting was therefore called by the Tuberculosis Committee of the Visiting Nurse Association to consider the social side of tuberculosis. To this call responded fifty persons who represented twenty of the various educational, scientific, charitable, labor union and fraternal institutions of the city, and at the meeting a committee was appointed to formulate plans for an organization and the Anti-Tuberculosis League was the result.

This society will operate by means of committees through the already existing institutions whose work brings them in touch with tuberculosis. Its aim will be to increase public interest so that there will be an intelligent support of public measures directed against the disease, for this purpose there will be lecture, literary and library committees:

To support and increase the sanatoria, the dispensaries and the visiting nurses:

To preserve from infection the children by assisting the fresh air camps, vacation schools and children societies:

To investigate dangerous trades and see that proper health devices are used:

To awaken interest in the fraternal and mutual benefit societies who particularly suffer from the large demands on them by consumptives for sick benefits:

To investigate unsanitary houses and urge their proper disinfection and repairs, and thus destroy the tuberculizing centers.

The work is evidently planned on the idea of preventing as well as curing the disease. There is no reason now why every case of tuberculosis in the city and every person intimately associated with it should not be known since compulsory notification has been enforced. If this League through its various committees can influence these individuals who are already infected or in immediate danger of infection, either directly or through the various bodies that come in contact with them, it seems as if much positive advantage must result to the city.

There is in Cleveland a great interest in this subject, and in the health office there is great activity, but to eradicate tuberculosis requires more than good will and legislation and statistics. There is need of individual work by physicians, and by those interested and working in the benevolent organizations, and if the League succeeds in inciting this personal sacrifice it will go far towards realizing its object.

The Society is well organized, has many strong committees and is sustained by the leading spirits in many of our organized charities and should have the undivided support of the medical profession.

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### The Medical Inspection of Our Schools

In accordance with the recommendations of the Cleveland Academy of Medicine, the Board of Health with the ratification of the City Council has appointed 20 additional District Physicians, whose duties are to include school inspection. As each

physician is assigned to a ward and as a certain amount of discredit has in the past been connected with the term "District Physician," it has been decided to change the title of the appointment to "School Inspector and Ward Physician." Physicians are obliged to maintain an office in the ward to which they are assigned and to display a sign with "School Inspector and Ward Physician" upon it. As in the past the care of the poor in his district will be a part of the physician's duty.

The routine of the work of inspecting the schools as now planned provides for a daily visit by the inspector to each of the schools in his ward. On post-cards prepared by the Board of Health, the physician makes a daily report of the number of pupils absent, the number examined, and the number excluded, with diagnoses of the cause of exclusion. In the cases of pupils absent without known cause, the physicians are expected to visit the homes to ascertain the reason for the absence especially in instances where contagious disease is suspected. Pupils once excluded on account of a contagious disease will not be allowed to return to school without written permission from the Health Officer. In this way it is hoped by early diagnosis and exclusion to check the spread of contagious diseases through the schools.

The new appointees began their work on March 16, and it is yet too early to predict whether the scheme will succeed. Doubtless some modifications of the routine will become necessary. The ward physicians intend to organize, and are planning to discuss at their meetings the best means of accomplishing the desired ends. Later on, Health Officer Friederich hopes to take up with the physicians questions of School Sanitation, and they will be expected to report on these conditions at the schools under their charge.

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### The Agitation for Clean Cars

It is to be hoped that the agitation recently instituted to secure a thorough cleansing of our street cars may be productive of much good.

The wretchedly dirty condition in which many of the cars are constantly found, notably so the older cars still in use on certain routes, suggests that the surface roads might profitably invest some of their surplus in brooms, water and disinfectants, and secure the services of a few additional cleaners.

We have only recently raised our voice against the lax way in which the ordinance against spitting is enforced. If an example could be made of a few of the worst offenders in this respect, a

wholesome regard for the dignity of our Health Board might eventually be created in the minds of a large number of individuals.

At present there is so evident a disregard of the law, as plainly stated on the cards posted in every car, that one can but feel a keen sense of humiliation in this afront daily enacted against law and decency.

If the ordinance regarding spitting in our street cars is to be considered as a law, let us insist upon its enforcement. If not, might it not be well, in order that we may spare ourselves the humiliating spectacle of its continued infraction, to take down the notices at present so conspicuously displayed?

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### "An Act Prohibiting Advertisements for the Cure of Sexual Diseases"

It is extremely gratifying to learn that there is at least one State in the Union with the wisdom and firmness to grasp the problem suggested by the above heading, in a way that can not fail to achieve a reform which we wish might become general throughout the country.

The legislature of the State of Washington, and the organized body of the profession of that State, are to be congratulated upon having secured the passage through both Houses of this most commendable Bill, the title of which we quote above, against the opposition of the newspapers and quack doctors of the State. It prohibits the publication or printing of any advertisement to cure genito-urinary diseases, to restore lost manhood, or to treat this class of disorders. The penalty is imprisonment from one to six months for the editor or owner of any paper or proprietor of any printing establishment who publishes such advertisements.

*Northwest Medicine* (March, 1905) states in an editorial note, referring to this act, that the Governor is expected to sign this Bill and that results may soon be expected from it.

Is it possible to conceive of the clearing of the atmosphere which will follow as the result of the enforcement of such a law? In the face of these recorded facts, no one can deny that we still have something to learn from the self-respecting action of our sister State in the far northwest.

Could such a law be made national in character, it would strike at the very roots of an evil as glaring as it is loathsome, and would, without question, have a wide influence in lessening the number of juvenile offenders and moral degenerates which abound throughout the country, while adding immeasurably to the dignity and self-respect of our lay press.

## Destruction of Mosquito Larvae by Mould Infections

Some interesting work is being done in the University of Lausanne with reference to the destruction of mosquito larvae by the introduction of organisms parasitic to them into their natural habitats. The authors have studied the effects of various bacteria, but without any definite results, and are now engaged on experimental infections with spores of some of the ordinary moulds.

Larvae of *Anopheles* and *Culex* were placed in small amounts of water in which a number of spores of two different moulds had been mixed, and in a few hours it could be seen that the spores had been ingested. In twenty-four hours long dark filaments were found projecting from the tail end of the larva, and on examination it was found that these were composed of the major part of the digestive tract, which was extruded, apparently in an attempt to get rid of the masses of spores and developing mycelium. The larvae of *Anopheles* were affected in larger numbers than those of *Culex*. When the spores were ingested by the older forms, or those more nearly approaching the pupa stage, recovery was not infrequent, and it was also found that it was not possible to infect the fully developed mosquito. Experiments on a larger scale were then attempted, but without great success, though a certain number of the larvae were infected. The experiments are interesting rather than practical, for the moulds studied will not develop in larger numbers in ordinary stagnant water, and there appears to be sufficient nourishment for the larvae without making recourse to the spores necessary. Furthermore, even if the development of the spores was sufficiently extensive in the mosquito infected waters, and it was necessary for the larvae to ingest them, the method would be far less practical and convenient than placing oil on the surface of these waters. It is, of course, possible that some parasite may be found that will destroy large numbers of the larvae, but it is probable that for some time, at least, the best method will be drainage, with a proportional reduction of the breeding places.

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## Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

**Pneumonia:** Beverley Robinson, in the *American Journal of the Medical Sciences* for December, believes that in pneumonia with the first symptoms of chills, fever, pain in the side, cough and expectoration, beechwood creosote should be vaporized, more or less continually, in the patient's room, and is confident there is no drug used in this way which has more preventive value in the treatment

of pneumonia. He is convinced that this is the best way to give creosote, so as to obtain its constitutional effects without disturbance of the stomach, and, as a rule, without injury to the kidneys. It is wise when creosote is thus used freely, to examine the urine carefully and frequently for any appreciable amount of albumin. Occasionally, creosote, by inhalation, used too freely, gives headache to the patient or to the nurse. In this case it should be intermittent for a few hours, perhaps, and the room thoroughly ventilated. It is also his belief that creosote thus used, prevents the taking of pneumonia by the nurses in attendance, or by any near relative very constantly in the room. So far as other patients are concerned, pneumonia patients should be isolated; not because all patients are infective or contagious to others with proper care and precautions, but a few, possibly or probably, are, and in time of a prevailing and increasing epidemic influence, this should be considered, and more than usual protective care to others should be insisted upon. He advises an occasional hypodermic injection of morphin at the outset, when the pain in the side is intense, later he uses it very rarely, believing it has no good effect upon the pneumonic process, while prone to lock up secretions already too much interfered with by the disease itself. He emphasizes as essential, first to begin judicious rational treatment immediately and to continue it during the attack; second, the most useful single agent in treatment as preventive and curative is creosote, used preferably as inhalations, properly given, and continued for a sufficient length of time; third, strict avoidance of extremes of treatment, in any direction, whether it be toward the use of so-called specifics, or the employment of certain drugs, notably digitalis and strychnin; fourth, it should be graven on our minds that pneumonia may be throttled or minimized most surely in the beginning; later, when the disease is fully developed, our role is inferior, but should consist mainly in doing least harm; fifth, harm proceeds invariably almost from ignorance or undue enthusiasm.

**Diphtheria:** Louis Fischer, in the *Dietetic and Hygienic Gazette* for January, asks what is the proper dose of antitoxin, and in answer says, that dose which will check the progress of the diphtheritic process, reduce the temperature if it is febrile, cause a general disintegration or exfoliation of the pseudomembrane. The proper dose of antitoxin for a mild case of diphtheria should never be less than 2500 to 5000 units for a child of any age. For a severe case of diphtheria with marked toxic symptoms, such as slowness of the pulse and enlarged glands, the dose of antitoxin at the beginning should be between 5000 and 10000 units. When seen after the third day of illness, then 10000 units should be injected. The same dose should be used in a severe case of septic diphtheria. If seen on the fourth or fifth day, and if the symptoms do not improve after 24 hours, another injection of 10000 units should be given. If we do not neutralize the toxin in the system by giving the proper antidote, then we must not be surprised to find heart complications (myocarditis), a toxic nephritis or paralysis as a sequela of this disease. In no disease is it more important to eliminate toxin than in diphtheria, and to utilize the kidneys the indication consists in giving large quantities of water to stimulate diuresis. Water will also promote activity of the skin. Next in importance is the elimination of poison through the bowels. The best drug for cleansing the intestines is undoubt-

edly castor oil. Calomel is best administered by giving a large dose, followed by repeated small doses of rochelle salts. Salines are also advised. For hypodermic medication, several pints of normal saline solution are given first choice. The injection of 10 or 15 drops of spirits of camphor or camphorated oil will often have a toning effect on a weakened heart. He has noted: First, that the temperature alone is not a sure guide as to the outcome of a case of diphtheria; second, the heart is the guide, hence a study of the pulse is more important in estimating the prognosis of a case of diphtheria.

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**Hepatic Cirrhosis:** Louis Faugeres Bishop, in the *International Clinics* (Vol. III, 14th series), states that the treatment of cirrhosis of the liver in acute exacerbations consists of rest in bed, milk diet, the use of drugs that relieve the congestion of the bowels and stomach, that is calomel and saline laxatives, and mercury and potassium iodid. The value of the mercury and iodid in cirrhosis is sometimes very great. He has seen a number of patients with enormous ascites, great emaciation, marked dyspnea, and all the signs of impending fatal result under hospital treatment, and the use of potassium iodid and mercury improve so that the patient has gone out of the hospital and has been fairly comfortable for a number of years. The supposition that cirrhosis of the liver is due to syphilis is, of course, a reason for using these drugs. It seems to him, however, that they exert an effect on the liver that is beyond the possibility of explanation by the syphilitic origin.

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**Water:** Morris Manger, in the *New York and Philadelphia Medical Journal*, protests against the abuse

of water drinking, especially as prescribed by physicians. This abuse is most striking in the case of nephritis. Patients require no urging to drink as much as possible, since the laity firmly believes that copious libations and the treatment of Bright's disease are synonymous. The larger the quantity of water consumed, according to the patient's reports, the more benignant and encouraging becomes the attitude of the physician. That any harm might follow such a course is beyond his belief. To doubt the efficacy of "kidney flushing" is the rankest heresy; that good might even result from reducing the daily amount of fluids to normal quantities is incomprehensible, and yet such is the case. It is to Von Moorden we are indebted for having called attention to the fact that when the heart is no longer competent, the daily quantity of water should be restricted to one and one-quarter liters (not including the water contained in the food, which averaged 500 to 700 cubic centimeters). In the earlier stages, also, when good compensation exists, this restriction is advisable as a prophylactic measure. Von Moorden has proved that in both stages, the elimination of the important salts is not lessened by this restriction. Even in the nephritis of diabetics he does not hesitate to restrict fluids when the cardiac condition demands it. In the early days of this restriction the patients often complain of thirst which, however, soon disappears. On one day of the week, the patient is allowed to drink as much as he pleases. Von Ziemssen has also observed good results from restriction of fluids in contracted kidneys and especially with evidence of arteriosclerosis. Mange's experience coincides with those quoted.

**Chloretone:** H. B. Hollen, in the *Therapeutic Gazette* for December, quotes Wade as employing chloretone with uniformly good results in a variety of mental disorders. In all it was noted that the administration of chloretone was followed by drowsiness and quietude, and finally by sleep free from bad dreams and bad after effects in the most maniacal patients. He recommends large doses of the drug, starting with not less than 15 grains, the succeeding doses being gradually increased. He states that as much as 50 grains have been given without any unfavorable results. To illustrate the safety with which chloretone may be given, Wilcox notes that one of his patients took in all 108 grains of the substance which caused a profound sleep for three days but did not bring about any alarming symptoms. A case is also recorded in which a morphinomaniac took 120 grains in divided doses within 24 hours with no bad effects following. In general, chloretone is best administered in doses ranging from six to 18 grains. Probably the most satisfactory results are obtained by giving it in two doses of 10 grains each about two hours apart. During the period between the two doses (just before the second preferably), the patient should take a hot bath lasting from 20 to 30 minutes, after which the cold spray should be applied for three or four minutes.

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**Adrenalin:** *Medicine* (from the *Critical Review*) calls attention to the appalling rapidity with which edema of the glottis develops and the necessity in severe cases of surgical interference if life is to be saved. It is one of the most trying emergencies which a physician has to meet, and the value of adrenalin in this condition seems to be assured. The constricting power of this substance upon vessels, the consequent diminution of the circulation and of engorgement, would lead one to the belief that it was a valuable remedy in such conditions. Such in fact it proved to be in at least one case: tracheotomy was avoided by the timely use of the remedy.

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**Dioscorea Villosa:** In the *Medical Council* for January, Finley Ellingwood recommends the dioscorea (or wild yam), which has long been used by the eclectic physicians, as fully as specific as quinin in the conditions for which it is prescribed, and its field, although narrow, as equally important. Given for the condition known as bilious colic, if the condition be correctly diagnosed, its influence is prompt, complete and permanent. No other remedy need be given with it. It controls the pain, antagonizes immediately all spasmodic action, produces quiet and rest, and assists in removing the conditions upon which the recurrence of the disease would depend. If a half dram of the tincture be given in a half teacupful of hot water, the influence will be exercised immediately. It is seldom that the dose need be repeated, although in a few cases it is necessary to repeat the dose every half hour, until three doses are taken. It is safe to say, however, that if the second dose does not relieve the patient, there is a mistake in the diagnosis, and the remedy will not be sufficient. It is also an efficient remedy in sudden spasmodic pain in the stomach and bowels and in the passage of gall-stone. The mild cases are completely relieved by its influence and the severer cases

are benefited. To recapitulate it is most speedy in its action in biliary colic, where the pain is sudden and very severe. Other forms of colic with spasmoid contractions, yield to it quickly. If the skin is yellow, the conjunctiva also discolored if there be nausea, and colicky pains of a paroxysmal character, the stomach deranged, and the tongue coated with perhaps frequent small flatulent alvine evacuations, the remedy is specifically indicated.

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**Typhoid Fever:** The *Medical News*, for November, 1904, believes that the real advance in typhoid fever consists in the prompt surgical intervention for perforation of the intestines. Whenever a typhoid patient suffers from any sudden change, a surgeon should be called in consultation. If the change noted begins with pain, however passing the painful condition may be, then little more is needed to justify at least exploratory laparotomy; any disturbance of pulse or of temperature in addition should be the signal for the surgeon being placed in charge of the case, and being allowed to assume the responsibility. Hesitation or delay in this matter is almost sure to be fatal. It is the old problem of appendicitis over again. A very large part of the death rate from typhoid fever is due to perforation and at least one-half the cases can be saved by prompt surgical measures. Hence the necessity for keeping the patient at all times under the eye of a trained attendant, who shall report at once any sudden change in condition. There must be no waiting until the morning visit or the risk is almost sure to be serious. In strong individuals, immediate operation will not only prove life saving but will usually enable the patient to react so promptly that the typhoid fever will run its normal course to convalescence without any disturbance or delay. In a certain number of reported cases all the symptoms of perforation have been present, yet at operation no perforation could be found. Later on, at autopsy, it has been found that the intestine has not been ruptured, but swelling of the mesenteric glands has occurred and that this had caused local suppuration with adhesive peritonitis. It is clear that where perforation cannot be found, ruptured mesenteric glands should be looked for, and their contents removed as far as is possible and consistent with the patient's condition.

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**Calomel:** Sollman, in the *Journal of the American Medical Association* for November 26, 1904, states, concerning the diuretic effect of calomel, that, according to Jendrassik, it is effective mainly in cardiac dropsies in which it produced results far greater than could be obtained with digitalis or caffein. To obtain the best effects 0.2 gm. (3 grains) was given from four to five times a day until a slight mercurial stomatitis was produced. If this did not prove effective from the start, the remedy was discontinued; it also seems wise to intermit it occasionally. The bowels may be regulated by opium. There are theoretical objections to the use of so powerful a renal irritant as mercury in nephritis but the greater number of observers, however, hold the opposite view, namely, that calomel does not render the nephritis worse, whether it has a diuretic action or not. Great conservatism, however, is indicated in its employment.

## Academy of Medicine of Cleveland

The twenty-third regular meeting of the Clinical and Pathological Section was held at the Medical Library, March 3, 1905, Dr W. E. Lower in the chair. Dr D. S. Hanson presented a case of Molluscum Fibrosum, which was discussed by Dr Corlett. Dr W. T. Corlett showed a case of Alopecia of the Scalp, apparently due to traumatism, and a case of Lupus Varicosus. Dr F. C. Herrick showed a specimen removed at autopsy of Biliary Cirrhosis due to an impacted gall-stone in the common duct, pancreatic calculus and hemorrhagic pancreatitis; Dr E. F. Cushing discussed the case. Dr H. Dittrick showed a specimen of epithelioma of the vulva with numerous metastases, one of which occurred in the heart muscle; discussed by Dr Perkins. Dr T. W. Clarke read a paper upon Congenital Hepatoptosis, Dr D. H. Dolley gave the pathological report and demonstrated the specimen; discussed by Dr Rosewater. Dr H. O. Feiss presented a paper entitled "Limitations in the Interpretation of Radiograms," illustrating the subject by a number of plates; discussed by Drs Bunts, Metzenbaum and Lower. Dr F. E. Bunts followed with a paper upon the "Report of a Case of Ectopic Pregnancy of Ten Months Duration. Operation. Presentation of Specimen"; discussed by Drs Skeel, Feiss, Waugh, Sanford, Cushing and Diemert. Dr E. M. Goodwin reported a Case of Cysts of the Intestine; discussed by Drs Hamann, Bunts, Doolittle and Moorehouse.

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The seventeenth regular meeting of the Experimental Medicine Section was held at the Medical Library, Friday, March 8, 1905, Dr Bliss in the chair. Dr P. W. Cobb read a paper upon "Some Observations on the Digestive Power of Pepsin"; discussed by Drs Brown, Herrick, Moorehouse, Sollman and Bliss. Drs J. J. R. Macleod and D. H. Dolley presented a paper on "Contributions to the Study of Experimental Diabetes"; discussed by Drs Sollman, Hanson and Seiler.

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The twenty-sixth regular meeting of the Academy of Medicine was held on Friday, March 17, 1905, in the assembly room of the Hollenden Hotel. The president, Dr C. J. Aldrich, was in the chair. The meeting was devoted to the discussion of tuberculosis with special reference to its prevention and cure. Owing to the importance of a knowledge of this subject by the laity, the meeting was an open one. A large number of invitations had been issued to those interested on the subject. Dr S. D. Knopf, of New York, gave an excellent address upon "The Sanitorium Treatment at Home for Tuberculosis Patients." Dr John P. Sawyer read a paper on "Nutrition in Tuberculosis." Dr J. H. Lowman described "The Anti-Tuberculosis Movement in Cleveland." Dr C. O. Probst, of Columbus, opened the discussion.

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The twelfth regular meeting of the Ophthalmological and Oto-Laryngological Section was held Friday, March 24, at the Cleveland Medical Library. Dr Bruner in the chair. Dr Bruner and Dr Lenker presented interesting cases which were discussed by Drs Marvin, Ingersoll, Baker, Lauder and Lenker. Dr J. M. Ingersoll read a paper entitled "The Nose and Its Accessory Sinuses in the American Bear, with Specimens."

Dr A. R. Baker read a paper upon "The Use of the X-ray and Electro-Magnet in Removing Foreign Bodies from the Eye, with Exhibition of Specimens." Photographs and Lantern Slides, by Dr Geo. S. Iddings. Discussed by Drs Bruner, Lenker, L. K. Baker, Lauder and D. B. Smith.

### Cleveland General Hospital

The regular meeting of the staff and ex-house physicians of the Cleveland General Hospital was held on Monday, March 13, at 8:00 p. m., in the amphitheatre of the Cleveland General Hospital. The following constituted the program for the evening: Report of Case, Dr George E. Follansbee; Report of Case and Exhibition of Specimen of Ovarian Cyst, Dr Norman C. Yarian; Frequency of Appearance of Arthritis Deformans, Dr Ralph K. Updegraff; Treatment of Pneumonia, Dr M. J. Lichty. Dr Clyde E. Ford presented a case of osteo-sarcoma, involving the ankle joint.

There was a good attendance, and free discussion on all subjects of the evening. The next regular meeting will be held the second Monday in May, which will be on the 8th of the month.

EDWARD LAUDER, Secretary.

### Alumni Association of St. Alexis Hospital

The regular monthly meeting of the Alumni Association of Resident Physicians of St. Alexis Hospital was held March 2, at the Hollenden Hotel.

Program: Paralysis Agitans, with Report of a Case, Dr Merle Shirey; Intravenous Injections, Dr William J. Manning; Report of a Case of Klebs-Loeffler and Streptococcic Infection of the Tongue, Dr Thomas J. Calkins.

### Book Reviews

A Text-Book of Alkaloidal Therapeutics, being a condensed resume of all available literature on the subject of the active principles, added to the personal experience of the authors. By W. F. Waugh, M. D., and W. C. Abott, M. D., with the collaboration of E. M. Epstein, M. D. Chicago, The Clinic Publishing Co.: 1904.

This work is an excellent summary of the therapeutic application of the active principles of drugs rather than the preparations usually employed. It embodies much information not otherwise readily accessible upon the active principles, and especially advocates the use of the smallest possible quantity of the best obtainable means to produce the desired result. There is no question that when a single principle represents the therapeutic activity, it should be given the preference; when several are required, however, to obtain such effect the galenical preparations would seem to better represent the drug. The book is, as stated in the preface, a fair digest of the topics treated. Some of the chapters are extremely satisfactory, that upon digitalin being exceptionally full and complete. The authors have brought within a reasonable compass much of practical worth concerning the active principles, and the work is a trustworthy guide along the line of therapy which it advocates. Blank pages interleaved for the record of personal experience add to its value.

A Text-Book of Human Histology. Including Microscopic Technic. By Drs A. A. Böhm, and M. von Davidoff, of Munich, and G. Carl Huber, M. D., Professor of Histology and Embryology in the University of Michigan, Ann Arbor. Second Edition, Thoroughly Revised and Enlarged. Handsome octavo of 525 pages, with 376 original illustrations. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Flexible cloth, \$2.50 net.

This second English edition of the well-known text-book is attractively gotten up in soft covers with the leaf edges rounded, and is printed on paper thin enough to allow of over 500 pages in a volume small enough to handle comfortably. The text is clear and the illustrations are clear. These have for the most part the advantage of direct labeling rather than by legend. Wherever necessary, the most suitable methods for the preparation of tissues are brought in, but the list of references of the first edition has been omitted. From the standpoint of the pathologist there are certain omissions, notably any discussion of the so-called perithelial cells of Waldeyer, concerned in certain tumor formations. The book is however very satisfactory, and of great value to the student and also as a book of reference to the workers in allied subjects.

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Dwight's Epitome of Toxicology. A Manual for Students and Practitioners. By E. W. Dwight, M. D., Instructor in Legal Medicine, Harvard University. In one 12mo. volume of 298 pages. Cloth, \$1.00, net. Lea's Series of Medical Epitomes. Edited by V. C. Pedersen, M. D. Lea Brothers & Co., Publishers, Philadelphia and New York, 1904.

This little book, one of the series intended for quick reference in medical matters, is compact and convenient, and contains under each head, illustrative cases with autopsy record, increasing its value as a reference in coroner's cases. All questions are placed at the end of the chapters, so that the text is not broken. As a compend for the student it fills a useful place in the well-filled ranks of short cuts to knowledge.

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A Text-Book of Clinical Anatomy, for Students and Practitioners, by Daniel N. Eisendrath, A. B., M. D. Beautifully illustrated. W. B. Saunders and Company, Philadelphia, New York and London.

Clinical anatomy as presented in this volume, consists of the application of anatomical knowledge to every branch of clinical work and covers not only the surgical, but the medical field as well. Each portion of the body is systematically described, under the general arrangement of, first, an examination of the part during life, then the surface anatomy and relations, and finally the deeper structures. This instruction is very clearly conveyed, and the book embraces much of practical importance, each subject being fully and satisfactorily treated. Minor anatomical details are intentionally omitted, points of special interest are emphasized, and the illustrations are admirable, the majority of them being original. Special stress is placed upon the examination of the normal human body during life, and the work will prove of great practical aid to the physician as well as the student.

A System of Practical Surgery, by Professor E. von Bergmann, M. D., of Berlin, Professor P. von Bruns, M. D., of Tübingen, and Professor J. von Mikulicz, M. D., of Breslau. Translated and edited by William T. Bull, M. D., Professor of Surgery, College of Physicians and Surgeons, Columbia University, New York, and Edward Milton Foote, M. D., Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. In five volumes. Sold by subscription. Lea Brothers & Company, Publishers, Philadelphia and New York, 1904.

This extensive system of surgery comprises some 4,200 pages and nearly 2,000 engravings together with about 100 full-page plates, many of them in color. The separate articles in the German edition are by men of authority and skill in the branches of surgery upon which they write and the work of collecting and editing has been done by the three famous surgeons whose names appear on the title-page. The English translation and revision is under the editorial charge of Dr W. T. Bull and collaborators who have made additions and introduced new illustrations.

The work deals with regional surgery, general surgery (i. e., the underlying principles of pathology, infectious, asepsis, surgical infectious diseases) and is not systematically considered. Though the text is chiefly practical and clinical, considerable attention is given to the surgical pathology of various affections; statistics and the results of experimental work receive appropriate mention.

Volume I is devoted to Diseases and Injuries of the Head. Among the contributions are such well-known authorities as v. Bergmann, Krönlein, Krause, Kümell and Lexer.

Volume II contains the Surgery of the Neck, Thorax, Mammary Gland, Vertebrae and Spinal Cord.

Volume III is devoted to the Surgery of the Extremities.

Volume IV takes up the Surgery of the Alimentary Canal, and is the most interesting and important of them all. v. Hacker and Lotheissen write on the esophagus; v. Mikulicz and Kausch on the stomach and intestines; Körte on the pancreas and Kehr on the liver and biliary passages. In this volume one notes numerous illustrations from the writings of Mayo, Senn, Stimson, Richardson, Huntington, and other American authors. Many of the illustrations assist greatly in the comprehension of the text, indeed often doing away with the necessity of detail descriptions of complicated operative measures.

Volume V contains the Surgery of the Pelvis and Genitourinary Organs. Among the contributors are the late Profesor Schede, Körte, Nitze, Sonnenburg and v. Bramann. The section on the Surgery of the Prostate Gland is not as satisfactory and up-to-date as one would wish.

Each volume has an index and the fifth volume contains a general index. There are no chapters on Gynecology. The omission of the bibliographical references found in the German edition detracts from the value of the American edition. Taken as a whole this work, which represents the views and teachings of some of the best German representatives of the science and art of surgery, is a very excellent guide to the student, practitioner and general surgeon, and it can be highly recommended.

Normal Histology and Microscopical Anatomy, by Jeremiah S. Ferguson, M. Sc., M. D., Instructor in Normal Histology, Cornell University Medical College. Illustrated. Octavo XIX, 738 pages. D. Appleton & Co., New York. 1905. \$4.00.

No calendar year seems complete now without the appearance of one or more new text-books of Histology, and the 1905 quota has begun early. Szymonowicz-Macallum, Sobotta-Huber, fifth English edition of Stöhr, second English edition of Böhm-Davidoff, Bailey, and now Ferguson, have all been offered in less than three years. From some standpoints the last addition is not the best.

It is a bulky volume, well done typographically, but the illustrations are a disappointment. These are numerous and those copied from other sources are usually well selected, but frequently have lost much of clearness in the reproduction. The original figures are far from good. Something over a hundred are from micro-photographs, and the general run of these are not even mediocre. They add to the cost of the book, but very little to its value. Well stained sections under the microscope are different enough to decipher, what the author in the preface terms "exact pictures of actual sections" would puzzle an expert to say nothing of the student tyro. The purpose of figures in a text-book is to aid in making the text understood, but these reproductions from photographs certainly fail here and fall far short of what might have been done with good drawings even if somewhat diagrammatic.

The text, from the reading of a few chapters, seems well written but gives the impression of being padded with many details which are incidental rather than essential.

The treatment of the different parts of the subject is well balanced. Some unusual arrangements occur, for example, the skin is treated in connection with the respiratory system rather than near the excretory system as usual. The discussion of the nervous system is happily more complete than in most books. It covers about a hundred pages and includes description of the cord at different levels, of the medulla and basal ganglia and their relation to the cranial nerves, and of the cerebellar the cerebral cortex. This is supplemented with a description of the better known conduction paths.

The author appears to have gone to original sources to a large extent. Frequent references to the literature and a well ordered bibliography are welcome adjuncts. In addition there is an outline of ordinary methods in technic and an eighteen page index.

While one cannot accurately judge of the workings of a text-book with students until he has had it in actual use, yet this book as a whole seems too detailed to be usable as a student's text-book. The mean between mere condensed outline and prolixity is hard to get, but after accuracy, such a mean is the chief desideratum.

This book may well be of excellent service to the practitioner who wishes a recent and fairly complete discussion of this subject with literature references and for whom Kollikers *Gewebelehre* is too extensive. It is a distinct addition to the available text-books of Histology in English, but in the opinion of the reviewer, the ideal for a student's text-book is yet to be written.

## Medical News

F. S. Clark has moved his residence from 348 Dunham Avenue to 339 Harkness Avenue.

Dr Edward D. Helfrich has been elected president of the Crawford County Medical Society.

D. B. Conklin presided at the meeting of the Academy of Medicine of Dayton, February 24. William A. Ewing and A. W. Bartells read papers.

Mr John Halter wishes to thank Dr Mulligan, of Lakeside Hospital, for the successful operation of removing cataracts of both eyes from four children.

The Greene County Medical Association met on Thursday, March 9, and listened to an excellent paper by Dr P. R. Madden on "The Retinal Changes in Systemic Diseases."

The Lorain County Medical Society met Tuesday evening, March 14. Dr Hubbel, of Elyria, gave an interesting talk, also Dr Maynard, of Elyria. Dr Browning, of Oberlin, read a paper on "Broncho-Pneumonia."

The Seneca County Medical Society held its regular monthly meeting on March 16, and an interesting session was reported. H. L. Wenner read a paper on "Cystitis," and N. C. Miller, of Fostoria, read a paper on "Apomorphia."

The Marion County Medical Society held its regular monthly meeting Tuesday evening, March 7, at Marion. Interesting cases were reported. Dr Uhler had charge of the meeting. Dr Osborne, of Waldo, was made a member of the society.

At a meeting of the Northwestern Ohio Union Medical Association on February 14, it was decided to merge the society with the Ohio Medical Association. F. C. Reed, of Akron, was reelected president of the Association, and J. H. Seiler, secretary.

An interesting meeting of the Ashtabula County Medical Society was held February 28. Papers of the evening were: "Oxygen in Pneumonia," Dr Tower; "The Outdoor Treatment of Tuberculosis," Dr Upson; "Wounds, Bruises and Putrefying Sores," Dr Dickson.

On February 28, the Lorain County Medical Society held its annual banquet at the Hotel Franklin. O. T. Maynard presided as toastmaster and the speakers of the evening were: Dr Lower, W. L. Hughes, Dr Hubbell, Dr E. V. Hug, P. S. Williams and William M. Park.

The meeting of the Fairfield County Medical Society was held on February 14, and was one of the most interesting sessions ever held by the society. Doctors Silbaugh and Beery, of Lancaster, and Mason, of Sugar Grove, contributed interesting papers. The attendance was large.

The Tuscarawas County Medical Society held its regular meeting February 14. J. D. Dunham, of Columbus, read a paper and C. L. Hamilton discussed "Surgery of the Stomach." "A Practical Study of the Wrist," was the subject of a paper by J. A. McCollam and C. U. Patterson reported cases of typhoid fever treated with acetozone.

The thirteenth regular meeting of the Lake County Medical Society was held Monday evening, March 6, in the Assembly Room, Parmly Hotel, Painesville. The program was as follows: Presenta-

tion of clinical cases; "Gall-Stones," F. E. Bunts, Cleveland; leader of discussion, S. D. Good, Madison; reports of cases, J. W. Lowe, secretary, Mentor.

The Butler County Medical Society held a meeting on Wednesday evening, March 8. The program was as follows: "The Motor Pathways of the Central Nervous System," David I. Wolf, Cincinnati; "The Treatment of the Lacerated Cervix," D. D. Deneen, Oxford; "Tuberculosis of the Knee Joint," George M. Cummings; "Infants' Food and Feeding," C. A. Shaeffer.

On February 28, the members of the Summit County Medical Society and their wives enjoyed their annual banquet at the Windsor Hotel, Akron. Covers were laid for one hundred, and a very pleasant evening was spent. Dr Norris was the toastmaster and short speeches on technical themes were given by Drs Reed, Chase, Weaver, Moore and Stauffer. The society entertained five guests: Dr Walker, Dr Steele and wife, Dr Brant and Dr Zinninger, all of Stark County.

The Crawford County Medical Association held its meeting at Galion, Thursday evening, March 16. Tuberculosis was the subject for discussion. The addresses delivered by Drs C. O. Probst and C. S. Spohr, of Columbus, on the "Modern Treatment of Pulmonary Tuberculosis," and the "Causation of Pulmonary Tuberculosis," gave a clearer view of the great responsibility of properly protecting communities from the ravages of the great white plague. The officers elected are as follows: President, E. D. Helfrich; vice-president, C. A. Marquart; secretary, W. L. Yeomans; treasurer, Catherine Rayl; censor, J. F. Fitzsimmons.

The middle section of the Laryngological, Rhinological and Otological Society met at Toledo on February 14, with Thomas Hubbard in the chair. An interesting program was arranged for the occasion and many visitors were present. Those who took part in the program were: F. C. Linhart, Columbus; M. A. Goldsmith, St. Louis; A. E. Bulson, Jr., Ft. Wayne; Willis T. Anderson, Detroit; C. S. Means, Columbus; Francis W. Arter, Toledo; Chevalier Jackson, Pittsburg; Wm. R. Dabney, Marietta; J. M. Ingersoll, Cleveland; J. J. Lasaille, Toledo; Prof. R. B. Canfield, Ann Arbor; Preston M. Hickey, Detroit; Thomas Hubbard, Toledo. M. L. Heidingsfeld, of Cincinnati, illustrated with lantern slides matters of special dermatological interest.

## Deaths

Daniel Caulkins, of Toledo, died February 20.

Charles E. Ellis, of Cincinnati, age 39, died March 2.

James H. Cassidy, of Akron, died March 3, of heart trouble.

Berrin H. Aldrich, of Defiance, died March 7, of liver trouble.

Edward Vail, of Newark, died February 23, of uraemic poisoning.

Adolph Zipperlin, age 90, died at his home in Cincinnati, March 2.

William Henry, of Cleveland, was recently killed in a railroad accident.

Frank Wortman, of Newark, died March 10, after an illness of pneumonia.

J. S. Schild, of East Toledo, died February 18, after an illness of typhoid fever.

# The Cleveland Medical Journal

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## The Anti-Tuberculosis Movement in Cleveland

J. H. LOWMAN, M. D., CLEVELAND

There has been in the last ten years no decline in the mortality from tuberculosis in Cleveland, on the contrary it has increased. The mortality rate here runs from 13 to 15 deaths in 10,000 of the population. This is a favorable showing if our statistics are reliable and may be explained by the spacing of the dwellings, the width of the streets, and the comparatively small number of tenement houses.

The autopsy records of Cleveland, examined by the committee of the Ohio State Tuberculosis Society, of which committee Dr Howard was chairman, developed the fact that 37% of the cases examined had tuberculosis. The autopsies recorded were not made with special reference to tuberculosis and are therefore imperfect. The resident pathologist of Lakeside Hospital, Dr Bacon, tells me that the last hundred autopsies conducted in that hospital showed 90% of tuberculosis. When we recall the fact that the clinic at Lakeside Hospital is for acute diseases and that pulmonary tuberculosis is not admitted to the wards, this figure is startling and recalls Naegele's statistics in Zurich most vividly. An autopsy record of 37% tuberculosis corresponds with a low mortality; an autopsy record of 90% of tuberculosis suggests a possible error in our statistics.

Death reports here are not made directly to the health office by physicians and there is probably much careless work in this indirect notification. Thus our apparently favorable place among cities may not be the true one or Behring's position that we all have tuberculosis is tenable. Now that we have, through the energy of the health office, a compulsory notification of tuberculosis, there will be a valuable control on mortality records. In places where compulsory notification prevails there is a close correspondence between the disease and mortuary reports.

In 1904 there were 6476 deaths from all causes in Cleveland, 647 of these (exactly 10%) were from tuberculosis; this number is sufficient to stamp the disease as endemic among us.

Nothing could be more timely or more sound than the words of the distinguished speaker of the evening. It is necessary, as he says, to go equipped into the homes and grapple with the disease there.

We are all ready to acknowledge that a well-installed and well-directed sanatorium is the ideal place to cure the disease. Yet we cannot be idle while the sanatoria are building. Neither must we forget that for the care of the patient many agencies are necessary, of which the sanatorium is but one.

There are now only 8,000 beds in this country for consumptives; when one recalls the fact that over 100,000 die of tuberculosis every year he readily perceives that there is room for only one percent of the patients. How essential it is, therefore, that the sanatorium treatment in the home should be brought to our attention. We have learned tonight how effectively this home treatment by sanatorium methods can be carried out. But as a distinguished Frenchman has said, "there are two kinds of tuberculosis—one of the rich, which is curable; one of the poor, which is fatal." It becomes, then, a question of resources; with the former they are abundant; to the latter they must be supplied or the patients die.

Imagine, for instance, a family of eight—father, mother and six children—living in three rooms, one of which is windowless and dark; the father has tuberculosis and sets the seal of death on all around him. Here everything is lacking, there is absence of income, absence of space, absence of air, absence of food, absence of clothing, absence of fuel, and with this absence of resources the resistance of this focus of infection increases. Unlike other propositions, where the unit increases its resistance with increase of resources, this resisting tuberculosis unit increases in resistance as it decreases in resources. The weaker this unit is in the ordinary demands of life, the harder it is to influence.

Here, then, we have the problem—what forces are required and how are they to be applied that the resistance of a tuberculosis focus may be overcome and the infection cease? In working out this problem there is infinite variety of attack, and great opportunity for dispersion of the forces deployed; sometimes they are duplicated unnecessarily and the financial burden of the relief doubled, and sometimes they fall short in their effort from misdirection.

The benevolences of today are specialized. It is necessary that they all respecialize with reference to tuberculosis, and by so doing they will discover that they are closely united by one bond, and have had an unconscious union in a most important direction of which they previously had little knowledge.

The office, aim and object of a tuberculosis league should be the assembling of all organizations that of their own private initiative are already working directly or indirectly against tuberculosis. Such a central body could, if well directed, make to converge from various sides on the especial point of resistance all the forces that are available and by constant effort, unremittingly reinforced, it must overcome the blighting influence of the tuberculizing center.

At the Liege conference recently, an instance was cited where one man had received aid from eight different and varied sources. One source supplied food and clothing, one cared for his family, one commuted his car fare, one supplied sick benefits, one provided the dispensary, one provided the sanatorium, one provided the convalescent home, one found work for him when he recovered.

Six months ago, through a mutual understanding, the Associated Charities, the Visiting Nurse Association and the Tuberculosis Dispensary of the Western Reserve University began a definite practical work against tuberculosis. The dispensary was to receive, register, diagnosticate, advise and treat patients. The visiting nurses were to visit the patients in their homes and while there inspect the premises and determine what aid was required, to reiterate the words of the physician, and supervise the conduct of the patient. In many instances they were aided in a very marked way by the district physicians. The Associated Charities were to make a social diagnosis and see that material aid, when required, was supplied to the needy, this meant eggs, milk, bedding, cots, fuel, and these were forthcoming in abundance. In six months 175 patients were recorded and a thousand visits had been made by the nurses and material aid supplied to the amount of \$50.00 a month. This combination, which was in reality a league, soon realized that its resources were far too short for the emergencies that were constantly arising and that the conditions in Cleveland demanded a larger movement. The city for two years had been active, a tuberculosis hospital had been established, disinfection of houses enforced; compulsory notification ordered, and pamphlets for instruction prepared; a city laboratory for the free examination of sputum had been established; ordinances against expectoration enacted and notices to that effect posted in street cars and public places; a new building code prohibited crowding

and windowless rooms; public baths were extended; measures looking towards cleaning and keeping clean public places where introduced, and at present filthy and indecently over-crowded street cars are being attacked, thanks to Dr Friedrich.

The Chamber of Commerce had done remarkable work in the investigation of tenement houses and unsanitary dwellings, in street-cleaning and along various industrial lines; the hospitals had been chary about receiving tuberculosis; therefore small tuberculosis homes had begun to appear. The school authorities asked for lectures to the high school pupils, the labor unions claimed to have reduced the mortality of cigar makers 20%, and to have introduced health saving devices in many of the dangerous trades.

The Slavic Alliance representing many tens of thousands was restless and asking for instruction; the Sokols or gymnastic societies were beginning to see the necessity of particularizing their work; for two years lectures on tuberculosis had been given to working men during their noon hours, and some mills had posted warning signs on the walls.

A cursory view of these various activities to the inquiring mind meant but one thing, that the time was ripe for a general movement against tuberculosis; that, in fact, the combat had in reality begun at the out-posts, and that a general staff was necessary to direct it. An invitation was then given by the tuberculosis committee of the Visiting Nurse Association to men and women influential and active in the various benevolences, private and public, of the city, to meet and to discuss the social side of tuberculosis. Fifty persons answered the call, and the Anti-Tuberculosis League, as organized March, the third instant, was the result.

On the Cleveland League are leading representatives of the various benevolent, educational, mutual benefit, labor union, social and scientific bodies. The work will be done by these organizations, as it already has been, but the tuberculosis feature of their endeavors will be accented and the inspiration will come from them to the central organization. The league takes advantage thus of institutions already highly organized which are ready and anxious to engage themselves in the tuberculosis work in so far as their province permits. The league is therefore centripetal in its essence rather than centrifugal, but will become centrifugal in directions unprovided for by special benevolences as it grows in motion and power. In its origin it differs from societies formed for the purpose of study and prevention of this disease in that it is made up of working forces that are already active and effective.

An Anti-Tuberculosis League ordinarily has been composed of physicians and philanthropists in varying proportions. Sometimes the physicians have predominated largely and sometimes the public spirited and benevolent citizens have been in control with a few physicians among the number, but always the governing body has been taken from one stratum of society and its work has been largely statistical and benevolent. Whereas such an organization ought in some measure to be controlled by those who are in immediate touch with the ultimate facts and miseries which it is trying to reach and eradicate. The daily worker with the poor is the one who brings the inspiration.

The Cleveland League has organized and appointed its committees. Its aim will be to arouse public interest and increase public knowledge so that municipal regulations may be enforced without opposition, for we believe that a law which by its innovations disturbs the habits of daily life, consecrated by long tradition, will be inoperative unless he on whom it imposes these regulations recognizes imperious reasons for its enactment.

This propaganda must be conducted by lectures, through the lecture committee; by pamphlets, posters and the press, through the literary bureau; by the libraries through the library committee.

The shops and mills, the dangerous trades and unsanitary houses, will be investigated through special committees with reference to this special infection. Unions, mutual benefit associations, clubs and national and fraternal societies will be shown their vital interest in the movement.

A committee on sanatoria will aim to work with the municipal authorities in their efforts to meet the immediate demands for the sick. A committee on dispensaries will attempt to increase the number of these most valuable auxiliaries. A committee on nursing will strive to secure more nurses for the nursing bodies. A committee on the kindergartens and day nurseries will seek to specialize the children in these institutions. The school committee will do the same thing in a different way. The committee on children will exploit the whole question of the protection and preservation of sound children in tuberculous homes and the care of unsound children in institutions. One notable example, *viz.*: Granchet's society in France, will undoubtedly be a great inspiration in this phase of the work.

A light labor bureau will provide work for convalescents who can work but two, four, or six hours a day.

All the devices of vacant lots, gardening, vacation schools, *et cetera*, that aim to get people out into the open will be encouraged.

At first the league will work, as already stated, through the active existing institutions, most of which are represented on the directorate. If, however, the movement strikes a popular note, gets a large membership and has substantial financial support, it will aid in a more direct way, for example, by supplying more nurses, extending the dispensaries and instituting, possibly, sanatoria of its own initiative.

While the enthusiasm and promises of coöperation which have attended the founding of this body are most encouraging, not a little labor will be required to utilize the resources which are already at hand. The lecture, propaganda and library committee will begin work immediately; the dispensary, Visiting Nurse Association and Associated Charities will continue the work they have been prosecuting; circulars, soliciting a large membership, will be widely distributed and hope and courage will inspire efforts which are destined to invoke sympathy, assistance and far reaching results.

Let us project ourselves for a moment into the future and follow a consumptive to his home and see in imagination how a well managed league could work. Through the nurses, the Associated Charities, dispensaries or physicians, or possibly friends, a case is reported, one that is too poor to obtain advice and the necessities of life. He is sent to a dispensary; there he receives instructions; the nurse follows him to his home and sets in operation all the resources at hand for the home treatment; she reports the case to the Associated Charities. This society investigates and sees what material aid is required; it calls on the needle work guild for clothing and bedding, so that the patient can lie in the open; on poor funds for fuel, for the house is colder because of the open windows, and provides food for the extra nutrition required; the nurse makes regular visits and the process of cure is set in operation. If the man improves and reaches a point where the physician thinks he can do some work, a light labor bureau will provide work for him, either by visiting his shop where his disease developed or elsewhere as its resources indicate. In the meantime the house and its records as a dwelling place of previous consumptives will be examined and if this record is bad, it may be that we here in Cleveland may emulate the example of Buffalo, which has destroyed many such houses and repaired and disinfected many more.

The children will be examined and, whether sick or well, given an outing on farms or vacation schools, so that they may grow stronger and be more able to resist the infection in their own homes, for the weaker the body the sooner it yields to the disease.

The gardening clubs will make a point of getting flower seeds for these children that they may be encouraged to work in the open air in a healthy way; the nurse, in her administration, will point the moral of all these efforts, and if a child goes to school, kindergarten or day nurseries, it will receive, although healthy, especial care, it will be better fed, kept more out of doors, in a word, specialized. If old enough to know better things it will receive knowledge from its teacher who will know about him; information given in this way will be a thousand times more effective than gotten through the curriculum of the school.

If the house is in the sweat shop system that fact will be known. If the man comes from a shop or an office where there are an unusual number of cases of tuberculosis, such shop or office should be visited and studied with the idea that possibly there is some particular resisting focus, either from the bad ventilation, overcrowding, dust, absence of health devices or the presence of an unsuspected, chronic, fibroid phthisis case.

Attention will be called to particularly suspicious public places and bad public habits such as stamping on floors in crowded auditoriums and thus raising a polluted dust.

In the meantime the public will be reached by the various methods of instruction that may be adopted. Thus the league becomes a powerful auxiliary to the public, the city authorities, the schools and the many benevolences. Unless all this is done there can be no general sanatorium treatment for tuberculosis in the home.

You might cry out from the house top that tuberculosis is curable, but there will be no cure so long as you do not supply it yourselves to the ignorant and the indigent. We have reached the point where we know what to do, it remains to us to do it. If it was a question of some synthetical compound exploited by a foreign house and indorsed by some mythical German professor in an unknown hospital we would go to the ends of the earth for it. But here we have a positive agent at our doors which is, it is true, a thousand times more difficult to introduce but it is efficient. One has said it would be a misfortune to discover a specific remedy for consumption for the disease is so definitely a result of over-work, overcrowding and underfeeding, that even more dire disaster would follow the use of such a remedy than its neglect, for we would no longer have the unmistakable sign of bad civic sanitation that we now have in the presence of tuberculosis among us.

The masters of medicine for 2500 years, from Hippocrates down through Isocrates, Galen, Avicenna, Sydenham, to Laennec,

Villemin, Brehmer and Koch, have known that tuberculosis was a curable disease. But although their wisdom enriched science, it benefited but little humanity. The light of knowledge touched the mountain peaks whence was reflected here and there a ray of hope, but it was not until, with the effulgence of noonday, it illumined the valleys where tuberculosis hides and where its strong holds are that the people discovered their rights and demanded their privilege. The truths about tuberculosis are known, the opportunity of applying them awaits you and the result will be commensurate with your efforts.

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## Nutrition in Tuberculosis

BY JOHN P. SAWYER, M. D., CLEVELAND

The modern treatment of tuberculosis requires for every individual fresh air and sunlight, good food, and rest. Drugs have a secondary place, important in some cases, helpful in many, and quite unnecessary in a large number.

Rest is of great value, particularly when there is elevation of temperature, for the existence of fever forbids exercise.

When exercise is permissible and desirable it must be absolutely controlled by the physician, that the individual may do himself no harm from overdoing, and by such excess of exercise, through which muscular strength is sought, produce a destruction of gain otherwise made.

But every tubercular patient must be fed. Out of the food stuffs which he consumes is to be made the blood which serves to nourish every cell in the body, and from which alone the latent energy can be made accessible to muscle and nerve and gland, for the chemical changes which are the very essence of their physiologic action.

The kind of food which shall be chosen is of great importance, but before considering this it is well to recall the fact that fatigue and nervous excitement are capable of seriously interfering with the digestion of healthy people and they are factors of all the greater importance in the same people when the process of consumption has begun.

Rest, which is so strongly insisted upon because of its other advantages has, therefore, its peculiar advantage in nutrition, in that it provides the condition for the best digestion of which a given digestive apparatus is capable.

The food which is to be administered to the tubercular patient is to be chosen with reference to supplying the needs of the body for its ordinary maintainance plus the need which results from the increased destruction which is a part of the direct results of the disease.

Loss of flesh or emaciation is pronouncedly a symptom of tuberculosis as well as of other wasting diseases, but we must think of food-stuffs supplied through the blood not in separate portions, of which one shall go to the tubercular process, but think all nutriment successfully used by the patient must go to the nourishment of his cells, for they, when well fed, are more able to combat the wasting and the tissue destruction which is a typical process of this disorder; and a cure depends upon vitality of well-fed cells.

The measures by which the amount of food needed by the body is determined, are matters of careful physiologic study, on man and animals, with exhaustive laboratory research. While various investigators differ in small proportions, the well-established and accepted basis of computation, all require that foods capable of yielding about 2,500 calories or heat units are needed to make good the ordinary waste of the healthy body, and suffice in many cases to feed the patient successfully when once tuberculosis has begun. In some cases a little more is wanted and we may safely reckon that from 2,500 to 3,000 calories are the heat units to be obtained. To secure this, food-stuffs may be taken which have definite heat values.

An egg furnishes 70 calories, a quart of milk 600, and an ounce of chocolate about 130 calories. While these are average figures, they illustrate the manner in which the quantity of food which each patient should consume may be reckoned when dealing with a disease whose course is not for days or weeks but over months and years. Unfortunately the choice of foods is more complicated than to figure out how many units such a weight of this or that food represents and take enough of it to make up the three thousand units desired.

Digestive systems differ very decidedly and a food which is very suitable for one person is wholly unsuitable for another. That the patient has tuberculosis does not mean that he should have a food specially for the tuberculosis, but that there is all the more reason for choosing a food-stuff which shall be suited to his present digestive capacity.

Good food, and excellent in many particulars, may not be good food for a given person. We need only think how wasteful

it is to burn soft coal in a hard coal furnace, or *vice versa*, each fuel being excellent in a suitable grate and draft, to see how reasonable is the variation thus demanded. The colors of certain fabrics may be fast colors, fashionable colors, or even beautiful colors, and be unsuited to certain individuals, while on others the full charm of fitness is realized. Individuality is as marked in digestive problems as in dress making.

This arises from the complexity of the disorders of the stomach and other portions of the digestive tract.

The stomach may secrete a gastric juice which is exactly normal in its composition and the muscular power of the stomach may be so correct that any taste or desire of the patient may be gratified without sacrificing any interest; and the very fact of its abundant variety will be of positive advantage.

When this normal digestive function of the stomach is determined a most favorable consideration exists in the outlook for the possible cure.

When, however, a stomach muscle is weakened so that food-stuffs are not properly manipulated within the stomach and not rapidly enough passed to the next phase of digestion occurring in the bowel, there is a more or less unfavorable factor introduced. The amount of food which such a stomach can take at a given time is less, whether it be beef steak, milk, or corn starch.

A weakened man must not be called upon to do a day's work of full vigor, nor must a weakened member be called upon to perform a task which measures the capacity of the normal. Bulk and weight of food must be rightly presented.

But aside from the question of muscular power of the stomach are the questions of condition and activity of the mucus membrane. Here is secreted a juice which in normal condition has a definite proportion of a special acid and also fermenta which have a great rôle to play in the process of digestion.

This membrane is frequently the seat of serious change, and the composition of its secretion is correspondingly altered.

Digestion of meats is best performed in the presence of the hydrochloric acid secreted by the stomach in normal proportions.

In a large number of people this proportion of acid is diminished or may be wholly absent, and in these people the digestion of meats within the stomach is very imperfectly performed. A part which the stomach should play is left undone and must be taken up by the later digestion in the bowel. This is more apt to fail when the patient is tubercular because of the added infection, and in such patients the supply of meat stuff must be regulated

that the individual may not suffer from a quantity of a perfectly good food too great for his digestive system to care for.

Similarly a great number of people show a secretion of acid which is excessive. These patients with their excessive secretion of acid will handle meat stuff better because the acid has an affinity for the albumins, whether vegetable or animal, and as these combine with the acid we secure thus a considerable advantage from the feeding of meats to the hyperacid stomach. But what is gained thus in the better digestion of meats may be partially lost in the digestion of starches, for food stuff of this kind is in part digested in the stomach only by the action of the saliva which should be thoroughly mixed with the food before it is swallowed. Under normal conditions this salivary digestion in the stomach is checked within a few minutes by the secretion of the acid and it has no chance to continue even for this normally short time when the stomach secretion is excessive in this respect.

Moreover, in the tubercular patient the salivary ferment is apt to be deficient because of the infection and because of the fever, when this exists. Hence, food-stuff which is most valuable in one group of cases is of comparatively less value in the other group of cases.

No such difficulty exists in the case of fats, but their use is otherwise limited. Fats and oils supply heat units in large proportions for their bulk.

It is known that proteids and meat stuffs of given weight supply 4.1 units of heat, starches and sugars or carbohydrates supply 4.1 units of heat for the same weight, while oils and fats supply 9 units of heat. Fats and oils are therefore most valuable as concentrated means of adding heat units to the food consumed. But while life may be barely sustained for long periods of time under exceptional conditions on one of these classes of food-stuffs, for all practical purposes we must reckon that the mixed diet is to be supplied, and it is found by experience that the statement may be generally made that patients do the best in whose diet all classes of foods are represented.

Usually the attempt is made to get around this difficulty of an uncertain amount of acid and an uncertain activity of the ferments by supplying food of simplest composition embracing the various classes which have been indicated. Milk and eggs consequently have obtained a widespread reputation in the treatment of tuberculosis and for these reasons generally that the albumin of the egg is in a state which produces little tax upon the digestive apparatus, the yolk contains considerable fat which is

most desirable; and in milk the cream is the fat of great value, while the casein or cheesy material of milk is a meat stuff easily digested and the sugar of milk supplies considerable carbohydrates for the body needs, and salts are present in most suitable proportions.

To secure enough milk of good average composition, one would need to give four or five quarts per day. Forty eggs per day would be required to give the heat units indicated. The needful quantities are thus very bulky, and it becomes highly important to add the more concentrated nutriment of flesh or vegetable. By so doing the necessary units are obtained for the body needs without taxing the stomach muscle which is apt to be weakened and thus become a source of pain and digestive distress complicating the patient's condition.

Individuals are intolerant of milk for various reasons and in practice three pints to two quarts represent the amount which is usually able to be given without detriment. It is sometimes impure and may in this fashion increase the existing disturbances. Modification of milk successfully accomplished renders less likely this unpleasant development.

Particulars need not be dwelt upon here but emphasis should be laid upon the value of cream and butter to supply calories in most favorable form for ready use to the patient who needs them so much. Artificial preparation of food-stuffs are able to bridge over difficulties in the course of correction, and meat powders like Somatose and Roborat, and beef juice are of great value. Eggs add much to the variety and when properly prepared are usually easily digested but all who have much to do with the treatment of the digestive organs are often astonished to find in some patients the comparatively slow progress of digestion of even softly cooked white of eggs four or five hours after the meal.

The reduction of food-stuffs of all varieties to the finest particles and their consumption in the form of puree, of which bean and pea soups, and mashed potato and croquettes serve as types is a procedure which is most apt to supply the necessary nutriment and avoid ill results in catarrhal and nervous or muscularly weak stomachs.

In such cases we should particularly avoid the use of much raw fruits and green vegetables not so reduced in form because of their abundant cellulose which is particularly indigestible, and because its resistance to digestion fatigues a weak muscle and irritates a sensitive membrane. Honey is a most valuable form of concentrated nutriment, a tablespoonful of strained honey representing 75 calories, fully equal to an egg under most

favorable conditions. Chocolate and cocoa made with milk have high value as they are fats very easily emulsified.

In few cases is there need for the use of the ferments like pepsin or pancreatin by which we vicariously substitute some other digestion for that of the patient's.

Because salivary secretion in these patients is often deficient the addition of a Malt Extract is much more often in place.

But when we have calculated accurately a sufficient supply of food and have chosen it carefully with reference to the capacity of the stomach muscle and the varying activity of the stomach secretion, we have still to reckon with a much more difficult proposition in a great number of cases.

There are no individuals who need good cooks so much as the tubercular patient and the inability to secure good cooking is enough to defeat the best planned diet list that can possibly be constructed.

No matter how much the patient may rest himself and in every other respect conform to all the requirements, the cooking which is served to many invalids is destructive in advance of any favorable digestion, and is enough to make well men ill, to say nothing of preventing ill men from getting well.

Diffusion of skill in wholesome cooking is an end to be sought, not alone because of the pleasure afforded the palate, but because through it there is hope of recovery for many who are practically starving in the midst of plenty. This may seem an overstatement, but the continued loss of a considerable percent of a well-constructed diet in this disorder too often defeats every other well considered procedure.

The application of excessive heat and the vicious use of seasoning in food often inflict serious injury upon delicate membranes whose best performance is none too much to assist the individual out of his weakened state.

These considerations gain additional importance when we reflect that many people owe to a foregoing dyspepsia the lowered vitality which made possible the successful tubercular infection. While we plead for good tenements, while we strive to control the infection of air and dust and demand the destruction of all sputum of all infected people in a community, let us bear in mind that people not yet infected, and people in whom infection has occurred but is held in check by present physical vigor, need from every etiological consideration of tuberculosis painstaking care of the digestive system; and for this purpose good cooks are better than druggists.

Observation teaches us that many invalids develop tuberculosis after a period of gastro-intestinal disorder, and while we teach the efficient measures of good hygiene for the tubercular patient, let us none the less insist upon a good digestion for the otherwise favorably situated person to protect against a successful inoculation, to which all are more or less exposed. Digestion should be painstakingly cared for during convalescence from any acute illness.

Of this phase of the tubercular problem enough has not been made, for if with good air, rest, hydrotherapy, and good food, we may hope in a large percentage of cases to overcome an infection already established, how much more efficient is it to protect the uninfected from the inroads upon their strength which shall at last in a great number of cases make successful infection possible.

In few other disorders does the intelligent care of the digestive tract work more for the benefit of a remote process than in tuberculosis, and surely the actual numbers who might be benefited in this way are vastly greater in the large number of tubercular patients in a community, than in any other class of patients. A stream never rises higher than the source of its supply, and blood-making organs never furnish a better plasma than the gastro-intestinal mucosa and musculature permit, for the well-spring of human energy is food-stuff converted through initial aid into plasma.

It matters not how many calories of food-stuff are taken from plate or glass, unless these can pass the barrier of the mucus membrane they can never undergo elaboration nor reach assimilation. It would seem that in no part of the treatment of tuberculosis is there a greater field for the exercise of good judgment than in the dietetic regime which should be instituted and changed with the changing conditions of the patient.

Rest and open air and destruction of sputum are not difficult to arrange but judgment in feeding is not always shown and cannot be made a routine.

The tubercular infection tends to emaciation and we have learned in practice to put gain in weight as an indication of oncoming relief from the tubercular process. This emphasizes the importance of every effort to overcome the deficit; for these measures lead not only toward symptomatic relief but are in themselves curative as they increase resistance. It is hardly necessary to state that little or no digestive disturbance is shown by many tubercular patients, but emphasis may well be laid upon the importance of the study of the digestion as a prophylactic and curative measure in a great number of cases.

And while agreeing fully to the proposition that in many, no particular gain will result from these and similar considerations, yet in a surprisingly large number much that is now lost might be gained.

DISCUSSION BY DR CHARLES O. PROBST

*Mr President, and Members of the Academy:* I can scarcely hope to add much of value to what has been so well presented, but to start the discussion, which I hope is to follow, I will give my personal views of some phases of this very interesting subject.

It is my judgment that most of the incipient cases of tuberculosis that can afford it should be sent to a closed sanatorium. I will not enter into a discussion of the exceptions to this rule, of which there are many.

It is difficult, I find, to secure absolute obedience to directions for home treatment. A patient who would take a drug in the exact manner and at the minute prescribed will, usually, lack appreciation of the importance of following to the letter directions for taking air, food and rest or exercise. These patients are exceedingly apt to make slight variations in directions given them in accordance with their feelings or the advice of friends. It is here that a properly managed sanatorium offers many advantages. I would emphasize the expression "properly managed." I know of some very grave indiscretions permitted a patient whom I sent to one of our sanatoria of most excellent repute. I know of another instance in which the patient received a far less lengthy daily exposure to fresh air than has been found possible for patients treated at home; and we cannot, surely, give them too much fresh air.

I know something of the ease with which ruts are made and followed in other public institutions for the treatment of another class of patients. I fear there must also be a tendency to routine methods, with lack of individualism in sanatoria.

I remember one hospital for tuberculosis that I visited where twice a day every patient got a measured quantity of egg-nog, and twice, at other hours of the day, a dose of cod-liver oil. But even with these possible drawbacks, and others which I am inclined to believe unavoidably exist in all sanatoria, to some extent, the majority of patients, in my opinion, will do much better in a sanatorium than at home.

I am inclined to believe, however, that sanatoria will find their most important mission simply as training schools. A large number of patients require a year or more of treatment to fully recover. For many of these it is unnecessary for them to spend all of this time in a sanatorium. Two months of training should suffice to establish correct habits and teach the necessity for absolute obedience to the physician's orders. After that, it will usually be possible to continue proper treatment at home, provided always the patient continues under the constant care of a physician who thoroughly believes in the modern treatment of tuberculosis and knows how to administer it.

Here I see a danger that should be fully understood by the public. As there is no indication for the use of drugs in many of these incipient, curable cases, and as even many members of the profession still look upon the sanatorium treatment as so simple that the patient needs only to be told to get plenty of fresh air, to eat three good meals a day, with milk and eggs between meals, and to rest whenever the temperature goes over 100°, the public may soon begin to wonder why they must have a physician at all, after the diagnosis is made.

Not long ago a lady telephoned to me that she had a friend in another city who had consumption and she wanted me to give her instructions, by telephone, for carrying out the "fresh air" treatment that she might send them to her friend.

In the last number of "*The Outdoor Life*" there is a well written article by a layman, who had evidently gone the rounds of various sanatoria and health resorts, on "Taking the Cure Alone." In this article he tells patients of this class how they can treat themselves. There is no doubt that if these directions were fully carried out many patients who followed them would recover without medical aid; but how many would succumb who could have been cured had they been properly directed in the seemingly little things which quite frequently determine the issue of a case.

No one can study the minute care given to patients by Brehmer, by Dettweiler or Walther, without being impressed with the fact that in the treatment of tuberculosis everything touching the environment of the patient is important and should be considered. If an exciting game of cards, highly emotional music, or an exciting book may raise the temperature of such patients and do harm, and we know this is true, how necessary it is that the patient should have constant medical guidance.

That many persons recover from tuberculosis without a physician we know. That many even have the disease and recover without even suspecting that they had it, we also know from autopsy records.

But it would be just as foolish for a patient with tuberculosis to treat himself with drugs as it would be for him to treat himself by the so-called fresh air method. The profession has done and is doing so much for the prevention of this disease that I feel sure it can be accused of no selfish motive in giving this advice.

The number of physicians, victims of tuberculosis, who follow it and place themselves in the hands of physicians for treatment, is the best evidence of this.

The paper relating to feeding in tuberculosis is in line with the ideas I have tried to express, that in the treatment of this disease, whether in sanatoria or at home, we must individualize, and we must guard ourselves from falling into the easy and slipshod habits of routine practice.

## The Mental Side of the Consumptive

BY GUY H. FITZGERALD, M. D., ALBUQUERQUE, N. M.

The open air treatment of pulmonary tuberculosis has been accepted and established beyond question. The details of the regulation of rest and exercise, of diet, clothing, sleeping, ventilation, etc., have been carefully elaborated and have been successfully carried out in all regions and in all climates. One feature seems to have received less stress than it deserves, and that is the psychic life of the patient. In the initial stages of this disease the mental powers are strong as ever; though somewhat weakened bodily, the patient's mind is clear and active, and he very often is far from enjoying the absolute mental rest that his physical condition would imply. Cerebral activity is as great a drain on the patient's vitality and reserve force as is physical exertion. So when absolute rest is recommended, mental quietude is as essential as physical. Since no two patients have the same mental makeup, habits, intelligence or patience, considerable discrimination is necessary in advising the course of treatment. To call attention to some points dependent upon temperament is the object of this paper.

Among the middle and higher classes, the increasing strain and worry incident to social ambitions, to the fierce competition of business and professional life, to the mad struggle for wealth and position, or to what has been termed the "strenuous life," produce a nervous exhaustion and general lowering of the vital functions which render the subjects suitable victims for infection just as surely as the squalor, filth and vitiated air of tenement districts render the poorer classes ready subjects to the same disease. Neurasthenia and mental diseases have long been associated with tuberculosis, so much so in the past as to give rise to the theory of the nervous origin of the disease. That tuberculosis is much more frequent among the insane, the epileptic and the nervous degenerates admits of no question, but it does not necessarily follow that these diseases are caused by the tubercle bacillus.

Growing children are too often forced through school and are compelled to spend long hours in study at home in order to make grades and promotions. Such a course tends not only to the production of nervous diseases, but to pulmonary infections as well. Attention paid to the early anemia, lassitude, slight loss of appetite, failure to gain weight, and the mere loss of enthusiasm for work and interest in studies, without the presence of fever, cough, or other symptoms of pulmonary trouble, would often head off a subsequent case of tuberculosis. Burning life's candle

at both ends, whether it be in over-work, play or dissipation, leads to the same end. The ranks of the tuberculous among the better classes are recruited mostly from the hard working, ambitious, nervous elements, among whom are to be found some of the keenest minds and brightest intellects and in whom no sign of mental or emotional aberration can be demonstrated.

That in the pretubercular, or in the initial stage of infection, there is any great variation in the mental or emotional characteristics of the patient is wrong. The mental peculiarities and emotional disturbances found in second and third stage cases are characteristic and decided, but a close study of what are really first stage cases fails to reveal any of these characteristics, or any mental or emotional disturbances other than those common to the bulk of mankind. The first stage cases, occurring among strong, active, well-developed adults, cause little or no mental or emotional disturbance. Tuberculosis is perhaps more apt to attack the weak, nervous or degenerate types in whom certain peculiarities are always found. Neurasthenia has been credited with a toxic origin by Engel, and that many cases are due to, or are aggravated by, a latent tuberculosis is quite probable. It is reasonable to suppose that the poorly developed, weak, or those having an hereditary predisposition towards the various types of insanity, epilepsy, or nervous disease, will *paru passu* have a lowered vitality and a lessened resistance towards infection, but it is not fair to attribute all the emotional and mental disturbances which may develop in these patients to the disease or its toxins, though they may be an exciting, etiological factor.

The attitude of the general public toward the tuberculous patient has its harmful side. Most patients are sensitive and realize that they excite pity and a fear of contagion in others, and the slights and slurs they often encounter serve to embitter and dishearten them. To be shunned by old friends and avoided by people fearing the disease leads to depression and melancholy. When we know that the properly educated and trained patient is harmless to others, such neglect and treatment is surely cruel. The timidity often observed in a tuberculous patient, which is shown in a desire to avoid society and the presence of strangers, is due mostly to a consideration on his part for the feelings of others, and surely has not the pathological significance that some imply. Though a man has a tubercular focus, he may still be a gentleman and retain all the old-time courtesies, thoughtfulness and consideration of others. It is a fallacy to regard a tuberculous patient as naturally more selfish, careless and unmindful of the comfort and wellbeing of others than are the majority of people,

though these traits may come to the surface in the later stages of the disease. To his disease is often attributed peculiarities of mind and temperament which were present but not noticed before. Some traits of character may be exaggerated by the confinement and dull monotony of life incident to treatment, but the character as a whole is changed little by the disease. The irritable and peevish patient may become more cross and unmanageable with the development of the disease; and the unselfish and self-sacrificing may not do themselves justice, fearing to impose on others. G. A. DeSantos Saxe claims that the gradual loss of will power and self control unmasks the patient. As the disease progresses there is little doubt that, with the general weakening of all vital forces, there is some loss of mental power and a consequent loss of will power and of self control. As self control lessens, the true character of the patient undoubtedly comes to the surface. The constraints of education, culture and social training may be cast aside and fundamental character be brought to light. Thus instead of a patient becoming selfish and thoughtless through the development of the disease, we have his natural selfishness and thoughtlessness exposed by the removal of the mask hitherto maintained by his will power.

Many first stage patients are a menace to the health of others, due mostly to ignorance and a lack of proper sanitary training. These patients are usually anxious to learn just what must be done to render their presence harmless. Once the information is acquired, as a rule it is closely followed. How many persons enjoying good health would walk over a hundred feet to secure a sputum cup rather than to expectorate on the ground? To a sick person, heavily wrapped to avoid chill, such exertion means a thousand times more effort, and yet the majority of trained patients will do it. The disease is sufficient burden for the patient without his having to endure persecution, which may drive him into depression and melancholy, hastening a fatal termination. The early case is not an object for pity or condolence. He needs sympathy and encouragement. That the tuberculous patient is as brave, unselfish and devoted to high ideals as the average man has been shown by Dr Knopf, and a striking instance is given in his report on the action of the patients at North Brothers Island during the Slocum disaster, sick patients working side by side with attendants in rushing into the water to save lives. Countless incidents of equal bravery recur to any one having a large experience with this class of cases.

The common belief that the tuberculous patient is always optimistic is wrong. Especially in the early stages pessimism

rather than optimism is the rule. That such cases are often prone to despondency is due to the shock, disappointment and the depression which must follow a certain diagnosis of tuberculosis. The more intelligent the patient, the more fully will he realize what a great change and readjustment of his life is demanded, and if he is not independent in means the perplexing financial problem will tend to discourage and oppress him. Once these matters are adjusted, the majority of cases are not unduly discouraged, nor are they too greatly optimistic. It is certainly wrong to attribute any great mental or emotional changes to the disease in its earlier history. Impulsiveness, deficient energy for work, vacillation or obstinacy are here no more frequent than in normal persons, and that these cases are more emotional, irritable or excitable is equally wrong. Late in the disease there is an optimism which has given rise to the current belief. One of the most difficult tasks of the physician is to overcome the depression and despondency of the patient, and inspire confidence and hope. Even in early cases there seems to be an increased susceptibility to external mental influences which becomes greater as the disease advances. The psychic control exercised by a physician is greater in this disease than in any other. Hence the personality of the physician and the confidence of his patient are the first great essentials in successful treatment. The patient is not only a ready subject to suggestion, but to auto-suggestion as well. He is ready always with a trivial cause to account for any symptom or development that may occur. Reports of accidents or complications to other patients may similarly affect him. Advice from laymen and irresponsible persons may have considerable weight with him in accounting for his various symptoms. Any increase in a cough is attributed to a cold, shortness of breath to the heaviness of the air, a chill to a draft or an open window, etc. His ideas of what is good or bad for him are derived almost wholly from accidental occurrences. He is often mentally entangled in superstitions and delusions. A pan of water under his bed will often stop night sweats, for instance, while a distressing dyspnea will be attributed wholly to atmospheric conditions. The more ill the patient the more pronounced these vagaries appear; he will often gain greater assurance of ultimate recovery and will make elaborate plans for the future, will order new clothes and will regard lightly the unmistakable omens of approaching death. In the second and third stages pronounced variations are found in the emotional and mental life. The nearer the end approaches the more decided do these variations become. There are rapid and inexplicable changes of mood; at one moment the patient is most optimistic, at another

is equally depressed. There is a decided loss of will power and consequent loss of self control and a loss of power for sustained mental effort. These changes are due to varied causes, among which the anemia, fever and general weakness may be counted, while vasomotor brain changes and edema, together with the toxemia, may account for others.

Insanity of any type may develop among the tuberculous. The more common type is some form of melancholia in the earlier stages, although late in the disease there may be a mania. Any tendency toward insanity, through inheritance or degeneration, may be greatly increased by the toxins of this disease. Suicide may occur among patients suffering from melancholia, those having no means of support, those made desperate through their hopeless condition and those mentally unbalanced through dissipation. The double burden of protracted illness and exhausted means is just cause for melancholy, and to one familiar with the tubercular element it is not strange that suicides occur.

Of the great number of tuberculous patients seeking relief in the southwest, the majority are brave and determined. With limited means and often under the necessity of earning a livelihood in a new country among strangers, handicapped by a diseased lung, he is a brave patient, indeed, who wins out. Many of the strong, able citizens of the southwest country, who have aided materially in its development, and who stand for all that is best in civic, social and professional life, are men who have regained lost health and who are a living refutation of the charge that the tuberculous are mental or moral degenerates.

Excesses of all kinds, which are a drain upon the vitality of the organism, are predisposing factors to the development of tuberculosis. Alcoholism, as is well known, lowers resistance and opens the door to infection, and too faithful devotion at the shrine of Venus is a concealed predisposing factor in many cases. Sexual excesses often pave the way for the development of the disease. That persons prone to sexual excesses develop tuberculosis has had something to do with the current belief that tuberculosis of itself increases sexual desire. Observation fails to confirm the theory that early cases have more exalted sexual functions than normal persons, while it is easily proved that as vitality and strength are lowered in the later stages there is loss of sexual power. That some persons are found who deliberately try to infect others with their disease has been cited as a special charge against the tuberculous. Any one familiar with syphilites will recall similar experiences. As soon as the diagnosis of hard chancre has been made, and before time has elapsed for the

development of mental changes through the action of the syphilitic poison, the patient at times makes a deliberate attempt to infect others. These attempts are fully as common in syphilis as in tuberculosis and because some mentally weak and degenerate tuberculous patients act thus is no just reason for indicting them all, or for holding the disease responsible for such action. To adduce tuberculosis as a cause of crime is similarly far fetched. Crime is most common among the degenerate or mental perverts and this same class of persons are more prone to develop tuberculosis than the man with a normal nervous system. That tuberculosis is more common among the criminal class is no just reason for holding the disease responsible for crime. Such teaching is harmful to the morale of the tuberculous, and tends to foster a spirit of irresponsibility which may lead the weaker element into crimes and acts which they would otherwise avoid. Mental and emotional changes, as has been said before, are more common in the second and third stages, and especially where there is a mixed infection. The cerebral intoxication can hardly be attributed to the toxin of the tubercle bacillus alone when so many other organisms are found adding their quota of poison to that already present.

Once a diagnosis of pulmonary tuberculosis is made, advice must be given and plans formulated for suitable treatment. After a thorough physical examination has been made and the sputum content determined, the most difficult problem remains to be solved. For its solution a thorough study of the patient's peculiarities of mind and temperament, habits of life, home surroundings and his finances, is essential. The patient is not a machine that can be sent to any shop for repairs. Though theoretically a good sanatorium meets every requirement, experience shows that in practice not every case prospers best in an institution. The temperament of a patient must be considered before he is sent to an institution. Mental content is as necessary in successful treatment as pure air and good food. If the best results are to be secured physical conditions that favor the repair of a damaged lung must be found, but these conditions must not run counter to the ingrained bias and bent of the patient's mind. Ironclad rules and routine treatment will not suit every case. Each patient differs in his physical condition, so that viewed solely from the physical standpoint the same plan of treatment will not suit every case; and as the mental makeup of patients is radically different, these peculiarities of mind and of temperament must weigh as much as physical conditions in determining upon the course of treatment. One patient will fare best in a sanatorium near home

where his relatives and friends may visit him frequently, but where he will be away from too great indulgences and may gain the training and discipline needed for his future. Another patient would fret and worry in such an institution, would be oppressed and uncomfortable located among the sick, and would regard the rules and regulations as tyranny, which at home he would gladly follow for the sake of his family. Another case when bound to the monotonous routine of institution life, would soon acquire an invalid habit, a selfish disposition, with less ambition and interest in his life and work. Another case would fare best far from home in a new climate, under new conditions, where he may take a new start and readjust all his habits of life, freed from the old grooves and associations that would tend to make him backslide. Others cannot be away from home and relatives without suffering from persistent and distressing homesickness which nothing can overcome. Such patients are surely better off treated at home. These cases illustrate a few sides of this many sided question. Intelligent treatment is the same anywhere, its success or failure depending fully as much upon the patient as upon the physician. On the physician it is incumbent to take advantage of those traits of character and peculiarities of mind which may be most successfully used in shaping the mental life of the patient; but on the patient rests the greater burden. The course may be outlined, but the patient must travel the long, weary road alone and of his own volition. Truly successful treatment cannot be forced. The most that doctors and nurses can do is to encourage the flagging spirit, to point out errors and pitfalls, to inspire hope and confidence, and to keep the goal of restored health always in view. Much aid may be rendered in the minor and trivial difficulties, but no one can supply a patient with the necessary grit and persistence to keep up the sustained effort essential to success.

The prevalent popular magazine articles on the subject of tuberculosis have done much to further a better understanding of the disease and its management. If any fault is to be found it is their over-optimistic tone. It is hardly reasonable to preach that every case is curable when treated in its incipiency. Some are bound to die and the reaction from this over-optimism may be quite harmful. However, these articles teach the great lesson of hygienic living and the vital importance of fresh air, and they inspire the afflicted and their friends with every hope of recovery, which on the whole is beneficial.

In a practical way a study of the mental life of the tuberculous patient is valuable in shaping treatment. That his psychic state may materially influence his physical condition is illustrated

by the temperature curve and general progress of a patient who is allowed to take his own temperature or to follow his own chart. In many instances fever will persist in spite of absolute rest, open air, forced feeding and baths. So long as he anticipates fever it will usually be found. On knowledge of his temperature being withheld and the assurance being given that it is lessening, the latter as a rule proves true. When conscious of even a slight fever, the patient feels much worse than if he thinks he has none. The coughing habit illustrates another type of trouble. Most patients cough more than is necessary. Cough may be materially lessened through mental effort and without medication. In a group one patient may cough, and within a few minutes is followed by others, but by a little effort most patients are able to control this sympathetic cough. Cases of ulcerated laryngitis, which makes the effort extremely painful, cough much less than when the act was not attended by pain. Fear and worry often drive patients into the very complications they most dread. Auto-suggestion is an important factor in almost all symptoms. That it may have a useful as well as a harmful field is shown by the temporary good effects which often follow any of the myriad of the so-called cures. They are usually recommended by an enthusiastic friend who backs up his statements with published reports of miraculous recoveries. Faith is created and hopes are inspired. At first improvement occurs, but the suggestion holds only for a time when its power is exhausted and a more profound and deeper depression follows. As cough and temperature may be affected by the mental state, other symptoms are equally subject to variation. Sweats are dreaded by most patients since they are regarded as harmful and an evidence of growing weakness. In the nervous subject sweats occur frequently just at the time when they are anticipated. When their terrors are explained away, they often disappear. Loss of appetite and repugnance for food are more dependent on the mind than on any disturbance of the digestive functions. Most stomachs and digestive tracts will care for all the nourishment taken, even when the feeding is forced, without any evidence of indigestion, though there may be no appetite whatever. These illustrate a few of the physical disturbances influenced by the mental state. As suggestion is the strongest therapeutic aid in treatment, the physician with the strongest personality is the most successful. In the treatment of no other disease is he called upon for such great drafts on his patience, tact and good cheer. To succeed he must study the mental habits and peculiarities and must recognize the worries and anxieties of his patients, and must devote as much time and thought to keeping the mind in the straight and narrow path as to the regulation of diet and exercise.

# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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THE ANNUAL MEETING OF THE OHIO STATE MEDICAL ASSOCIATION  
WILL BE HELD IN COLUMBUS, MAY 10, 11 AND 12.

## EDITORIAL

### Opsonin

Of late years there has been a tendency to neglect the rôle of the leucocytes in the combat against infectious diseases, but we are now being thrown back to a further consideration of these agencies, by the lack of success in some of the other lines. The sensitiveness of the typhoid bacillus to normal human serum, which has the power of bacteriolysis in regard to that organism in a well marked degree, is apparently dependent on the presence of free bacteriolytic amboceptors with suitable complements for these special infecting agents, or in other words, certain chemical substances which are able to join themselves to the typhoid bacilli, and eventually to destroy them. In other infections, however, and notably in those so important to the surgeon, the streptococcus and staphylococcus infections, these amboceptors appear to be absent, and the organisms are able to grow readily in pure blood serum. Yet these infections clear up after a time and some agent for their destruction must therefore be present or developed.

Wright and Douglas, in the proceedings of the Royal Society, have shown that the phagocytosis and destruction of certain bacteria by the leucocytes is dependent on certain substances in the plasma and serum, which they call "opsonins" from a word meaning "to cater for," or "prepare for." The bacteria take up this "opsonin" and are then and only then susceptible to phagocytosis. This substance, whatever it is, is destroyed by heating to 65° C. for ten minutes, unless it has already entered into combination with the bacteria, in which case it is able to resist this temperature. It also disappears on long standing, and may be destroyed by certain poisons.

This work has recently been continued by Hektoen and Rue-diger, who have obtained some interesting results. They agree with Wright that phagocytosis of many bacteria is dependent on the presence in the plasma of the blood of these special substances, and that the "opsonin" becomes attached to the bacteria which then, and not until then, become susceptible to phagocytosis. They also found that when blood of one species, known to contain these substances, is carried over into the circulation of another species, they may assist the leucocytes in the second animal to take up the bacteria. Various salt solutions, and certain other substances, such as formalin, seem to neutralize or bind the "opsonin" so that it cannot combine with the bacteria, thus preventing the phagocytosis. This is of interest in connection with the clinical reports of injection of formalin in cases of sepsis, which, according to these results, would have just the opposite effect from that sought. The "opsonins" are apparently substances of the same character and potentialities as some of those already studied in connection with Ehrlich's side chain theory, and the authors are continuing their work towards a practical application.

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### The Plan of the American Medical Association for dealing with "Proprietary Remedies"

There can be no question that the indiscriminate prescribing of proprietary medicines leads to serious abuses; for instance, counter and lay medication, and to the employment of worthless and even fraudulent products. On the other hand, few will be prepared to condemn indiscriminately, *all* the efforts of the manufacturing pharmacists. The real solution of the problem seems to lie in a judicious selection of the worthy from the unworthy, and to this end all relevant information concerning these remedies should be sifted critically, and a digest thereof should be easily

available. This is a task with which the individual practitioner cannot deal, since he lacks both time and facilities. It is a task which, to be successful, must be undertaken by a body of impartial experts, who must be authorities in their respective fields. It appears to us that the American Medical Association has taken the right step in this direction by the creation of the Council of Pharmacy and Chemistry. The personnel of this Council is a sufficient guarantee of its efficiency. It is made up of practical pharmacists, chemists and pharmacologists, many of them teachers in prominent institutions, and authors of well-known text-books. The Council also enjoys the coöperation of the Bureau of Chemistry of the United States Department of Agriculture. The members of the Council are as follows:

A. R. Cushny, A. M., M. D., University College, London; C. Lewis Diehl, Ph. M., Louisville, Ky; C. S. N. Hallberg, Ph. G., M. D., Secretary, Chicago; R. A. Hatcher, Ph. G., M. D., New York; L. F. Kebler, Ph. C., Drug Laboratory, Dept. of Agriculture, Washington, D. C.; J. H. Long, M. S., Sc. D., Chicago; F. G. Novy, M. D., Sc. D., Ann Arbor, Mich.; W. A. Puckner, Ph. G., Chicago; S. P. Sadtler, Ph. D., Philadelphia; J. O. Schlotterbeck, Ph. C., Ph. D., School of Pharmacy, University of Michigan, Ann Arbor, Mich.; G. H. Simmons, M. D., Chairman, Chicago; Torald Sollmann, M. D., Western Reserve University, Medical Department, Cleveland; Julius Stieglitz, Ph. D., Chicago; M. I. Wilbert, Ph. M., Philadelphia; H. W. Wiley, M. D., Ph. D., Bureau of Chemistry, Department of Agriculture, Washington, D. C.

#### THE PLANS OF THE COUNCIL

The plans of the Council also appeal to us as the most practical disproof of this question ever proposed. In the first place the Council intends to inquire into the preparations on the market with reference to their ethical status. In order to be admitted, the manufacturers of medicines must comply with the 10 rules, which we print below. No medicine which fails to come up to this standard within a reasonable time, will be admitted to the advertising privileges of the *Journal of the American Medical Association*, and it is hoped that all other reputable medical journals will avail themselves of the advice of the Council. In order to render the results of their work accessible, the American Medical Association proposes to publish a book "New and Non-Official Remedies," which will contain the remedies approved by the Council, with a careful critical summary, description of the composition, chemical and physical characters, actions, etc.

The operations of the Council should directly debar fraudulent and unethical articles from important channels of publicity and should warn the profession against them. It is also to be

expected that the very existence of this supervisory body will help to remove temptation from the path of well-meaning but weak manufacturers. It can only be advantageous to strictly legitimate interests, by relieving them of unfair competition. Indeed, most of the manufacturing houses have expressed their approval of the plan and consider its provisions fair and practical. Only a few voices of rather suspicious origin have arisen against it, as infringing the right of manufacturers to impose what they please upon the medical public. The Council should be congratulated upon this fact, for it indicates that it has indeed touched the abuses. It now remains for the medical profession individually and through its societies, to formally endorse this movement, and to show to the Council and to all others, that their intentions and efforts are appreciated, and that they count on the profession for support. The Council was created for the benefit of the medical public, and its work will bear fruit only in proportion to the interest which its work arouses amongst the rank and file of the profession. The only doubt which may exist of this movement is, whether it will accomplish all that it hopes. The future alone can solve this doubt. Even if it should fail to carry out its plans entirely, its work will not be wasted—a good start will be made. Meanwhile we have the fullest confidence in the wisdom of the Council and offer it our best wishes for the complete success of its endeavors.

#### RULES GOVERNING THE ADMISSION OF ARTICLES

The following rules are adopted to guide the Council on Pharmacy and Chemistry of the American Medical Association:

(The term "article" shall mean any drug, chemical or preparation used in the treatment of disease.)

Rule 1.—No article will be admitted unless its active medicinal ingredients and the amounts of such ingredients in a given quantity of the article, be furnished for publication. (Sufficient information should be supplied to permit the Council to verify the statements made regarding the article, and to determine its status from time to time.)

Rule 2.—No chemical compound will be admitted unless information be furnished regarding tests for identity, purity and strength, and, if a synthetic compound, the rational formula.

Rule 3.—No article that is advertised to the public will be admitted; but this rule will not apply to disinfectants, cosmetics, foods and mineral waters, except when advertised in an objectionable manner.

Rule 4.—No article will be admitted whose label, package or circular accompanying the package contains the names of diseases, in the treatment of which the article is indicated. The therapeutic indications, properties and doses may be stated. (This rule does not

apply to vaccines and antitoxins nor to advertising in medical journals, nor to literature distributed solely to physicians.)

Rule 5.—No article will be admitted or retained about which the manufacturer, or his agents, make false or misleading statements regarding the country of origin, raw material from which made, method of collection or preparation.

Rule 6.—No article will be admitted or retained about whose therapeutic value the manufacturer, or his agents, make unwarranted, exaggerated, or misleading statements.

Rule 7.—Labels on articles containing "heroic" or "poisonous" substances should show the amounts of each of such ingredients in a given quantity of the product.

Rule 8.—Every article should have a name or title indicative of its chemical composition or pharmaceutic character, in addition to its trade name, when such trade name is not sufficiently descriptive.

Rule 9.—If the name of an article is registered, or the label copyrighted, the date of registration should be furnished the Council.

Rule 10.—If the article is patented—either process or product—the number and date of such patent or patents should be furnished. If patented in other countries, the name of each country in which patent is held should be supplied, together with the name under which the article is there registered.

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### Anti-Vivisection Again

A circular letter signed by Elizabeth Stuart Phelps Ward, and Herbert D. Ward, together with a number of printed circulars bearing such titles as "A Plea for the Helpless," and "The Greatest of Cruelties," have been sent broadcast to authors and journals appealing for support in a popular movement against vivisection.

This circular letter contains the usual impassioned plea against the subject of vivisection, its authors stating that they have given many years to the study of this matter and can speak of it intelligently, declaring further that "the abuses of this practice are many, merciless and increasing."

As indicating the tenor of this circular, we quote the two final paragraphs:

"The press is not yet nobly and widely aroused to the subject, but is aware and observant of it. That form of omnipotence which we always acknowledge, and often respect—the power which can set nations at war, or at peace, if it will—could in one year make scientific cruelty in an American laboratory so disgraceful that it would die of shame.

It is to editors and journalists that we appeal with most earnestness and most hope. This question is fundamental to the

ethics of education, and to medical morality. We ask you to study it as closely as you can, for we are sure that you will not refuse your influence to a movement which seeks to check cruelty, and daunt brutality, 'for pity's sake.' "

We do not wish to go on record as supporting in every particular this earnest appeal, nor do we wish its authors to consider us unsympathetic, inhuman or brutal in our attitude toward the whole subject.

It is but natural that the question of vivisection should appeal forcibly to such sympathetic and imaginative minds as Mrs Ward's and many of her authorities quoted in the circulars sent out with this letter; but it is just that this arraignment of vivisection should be based upon the gruesome instances which have been cited as illustrative of all vivisection? Surely nothing could be further from the truth than the impression intended to be conveyed, that these gross abuses—apparent authority for which is given—are an every day occurrence.

It is here, it seems to us, that the plea of the anti-vivisectionist weakens. We should be glad and are ever ready to lend our support to any movement against the *abuses* of this practice, but its abuses cannot be used as arguments to condemn the whole, it is too ridiculous. Mrs Ward quotes Browning, Tennyson, Phillips Brooks, Cardinal Manning and Canon Wilberforce, all of whom, if we may judge of their opinion from the fragmentary evidence given, could hardly condemn enough what we should dare to call the abuses of vivisection in the abstract.

All through these abstracts one reads perpetual condemnation for imaginary, unceasing and increasing cruelties, and never a word of acknowledgment for the lives that have been saved through the knowledge that has come to us from the laboratory as the result of a merciful animal experimentation. Fortunately, all our scientists are not the brutes that these circulars would imply.

If we stop for a moment to consider the gain in life, and happiness, that has been given the world by a sacrifice of the brute creation, is it not absolutely incomparable with any other gain that has been given mankind? The ravages of diphtheria, plague and dysentery absolutely stayed. The lame and the halt restored and countless lives saved as a result of the knowledge gleaned from the workers in the laboratory, call it vivisection if you will. We do not believe that "the abuses of this practice are many, merciless and increasing," insofar, however, as they exist, let us for "pity's sake" do all in our power to check them.

## The Anti-Tuberculosis League

The work which has been undertaken by the Anti-Tuberculosis League is one which cannot fail to arouse the interest and to enlist the support of the lay and professional workers in this all-important mission. The beginning already made must be regarded merely as the entering wedge, but the seed sown now must bear fruit a hundred-fold in the future, if the same energetic campaign can be systematically sustained.

In the April number of the JOURNAL we published a full list of officers and committees appointed up to that time and we would call attention now to the constitution of the League published elsewhere in this number, which gives in greater detail the scope of the League as broadly outlined in our editorial of last month.

The work is one of great importance to the community and it is gratifying and reassuring, for the success of this work, to see the enthusiastic way in which the lay members of the sub-committees have thrown themselves into it, and our appreciative thanks should be given to such representative men as Rabbi Griess, Dean Williams, James F. Jackson, and Max Hayes, for the spirit with which they have joined in this campaign of education and prevention.

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## Ohio State Medical Association

The annual meeting of the Ohio State Medical Association will be held in Columbus, on the 10, 11 and 12, of this month.

The program of the meeting, as published on page 241, promises a number of interesting papers and discussions. The orator of the occasion is to be Dr John B. Roberts, from Philadelphia, and it is to be hoped that a large attendance will be present.

It is undoubtedly difficult for any great number of physicians, of the state, to give up the three full days, which seem to be demanded, at this time. It should not, however, be impossible to give a day, or a day and a half to the meeting, and we would urge every member of the Association to make the effort to be in Columbus for at least a part of the time covered by the annual meeting.

Apart from the purely scientific, professional and legislative interests concerned in this annual meeting, there is much to be gained in the general discussion of topics of common interest and in the opportunity thus afforded once a year of broadening our horizon.

## School Nursing in Cleveland

In 1902, after a six weeks trial, a system was established in New York City, whereby regularly appointed nurses visited the public schools daily coöoperating with the medical school-inspectors. These nurses, at first eight in number and later increased to 19, are immediately responsible to a supervising nurse. They are under the control of the Board of Health, while their supplies and a room for their use at the schools is provided by the Board of Education.

In their daily visits to the schools assigned them, the nurses' duties comprise the regular care of cases of minor communicable conditions, such as pediculosis, conjunctivitis and skin diseases, the children meanwhile attending school; visits to the homes of excluded children, if they do not return to school at the time specified by the medical inspector (certain diseases are excepted); and instruction of the parents in their homes, as to the means of stamping out the sources of contagion.

The New York system has met with most flattering success and it is claimed to have accomplished the following things: (1) a great reduction in the number of children excluded, since formerly no attempt was made to treat milder communicable conditions with the child still attending school; (2) the obviation of any serious interference with the opportunity for education of the children; (3) the eradication, if possible, of the source of infection of these school children by a visit to their homes and a demonstration of the means necessary to keep the family free from these conditions; (4) strict observation of all the children excluded by the medical inspectors to see that they get and keep under treatment, and that they return to school and do not become truants.

In view of the good work accomplished by the school nurses in New York, we are glad to know that a similar plan is about to be given a trial in Cleveland. The Visiting Nurse Association recently offered to the Board of Education the entire services of one of its nurses, for the period of one month, to show whether the establishment of a school nursing system would be warranted in our schools. The proposition of the Visiting Nurse Association has been accepted by the Board of Education, and five of the down town schools have been selected to which the nurse will devote her time, beginning on the eighth of May. As a preparation for her work, the nurse selected will visit New York City and Washington, D. C., to study the systems in vogue in those cities.

The JOURNAL considers the offer of the Nurses most commendable and wishes to extend its hearty support to the movement.

## Ohio State Pediatric Society

We publish elsewhere the program of the meeting of the Ohio State Pediatric Society which is to be held in Columbus, on the 9th of the month. This meeting is called for the day preceding the opening of the Ohio State Medical Association, at the Grand Southern Hotel, which makes it possible for the members of the Pediatric Society, and those especially interested in their program, to avail themselves of this meeting and that of the State Association immediately following. The program as published is sufficiently suggestive of the character of the papers which are to be read and an interesting meeting is promised.

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## The Open Meeting of the Academy of Medicine

We had hoped to be able to publish in this number of the JOURNAL, all the papers which were read at the last meeting of the Academy of Medicine. As, however, this meeting was an open one, to which the various charitable organizations interested in the crusade against tuberculosis were invited, the address of the evening, by Dr S. A. Knopf, of New York, was of a purely extemporaneous and practical character, delivered without notes or manuscript of any sort, so that, much to our regret, Dr Knopf has been unable to furnish us with even an outline of his most entertaining and instructive address, which was listened to by a large and appreciative audience.

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## Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

**Aconite:** W. H. Thompson, in the *New York and Philadelphia Medical Journal* for November 26, 1904,

asserts that it is reasonable to infer that a high tension pulse goes with a contracted kidney; and that a contracted kidney is, *pro tanto*, incapable of a normal excretion of urea. In a kidney not too far sclerosed, the administration of an efficient vasodilator ought to be followed by an increased excretion of urea. He regards aconite as the most certain vasodilator we possess, and high tension when present in the pulse will yield more certainly and more permanently when the aconite begins to tell, than by any other agents, except veratrum viride or free venesection. He believes it superior to the nitrates in real efficiency against the chronic high tension of nephritis. He has found the elimination of urea to increase to double, triple and quadruple the amount excreted before the aconite was given, and then when the aconite was left off, the elimination would gradually drop to its former low level, and then return again when

the aconite was resumed. Along with this there is a like improvement in the other renal symptoms, such as disappearance of casts, and of albumin, and general rise in the excretion of solids. As might be expected, the most marked effects of aconite are in patients with contracted kidneys. In parenchymatous nephritis, with much albuminuria and dropsy, the effects of aconite are less appreciable, for in some of these patients the excretion of urea is but little diminished. When such patients, however, have high tension pulse, and thickened arteries, aconite is indicated.

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**Mercurol:**

H. B. Hollen, in *Medicine* for February, states that the preparation of mercury which gives the most satisfactory results, and which is fast coming into widespread favor, is mercurol, the nucleid of the metal, of which it contains 10%. It is an organic combination in the form of a brownish-white powder, soluble in water, especially warm water. In the treatment of syphilis it should be administered in chocolate-coated tablets commencing with one-fourth of a grain, and gradually increasing. Mercurol is the best borne of all the mercurials and admits of a maximum exhibition of the antisyphilitic agent with practically no disturbance of digestion or assimilation. Cases in which reactionary effects arise are remarkably few, and most of these are probably due to faulty administration. As pointed out by Schwickerath, the nucleids of the metals constitute the most rational medium for administering these agents as they are soluble compounds incorporating not only the specific action of the bases, but also the antiseptic property of nucleinic acid. They increase the phagocytic (bactericidal) power of the blood by the multiplication of polynuclear and mononuclear leucocytes. The action of this soluble compound of mercury seems to be in harmony with the metabolic processes, which may be partially explained by its intimate relation with animal tissue. Treatment may be begun with one-half grain tablet three times a day, and the quantity increased after 10 drops to three grains or more as the daily dose. Not only is mercurol easily tolerated and free from undesirable after effects, but the results of its administration are speedy. The rapidity of its action is shown by the marked change in the skin lesions, and the early disappearance of the eruption. It is not uncommon for the rash to disappear within two or three weeks. This latter is especially desirable, as severe cutaneous manifestations should be controlled as soon as possible. Mercurol is useful in one-half to two percent solution as a gargle and mouth-wash in stomatitis, mucous patches, and buccal ulceration, and as an application in chancre and pustular syphilodermata. As to the length of time through which antisyphilitic treatment should be continued, it may be said that the established dose had better be given for three months after all symptoms have disappeared, and then decrease to one-half the original dose, which should be kept up for several months.

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**Subcutaneous**

Arthur E. Barker, in *American Medicine* for Alimentation: February 11th, after summarizing the uses of the saline solution, asks if it is possible to supply subcutaneously, or by the veins, such a fluid as will play the part of a food, so to speak. Such a fluid should be easily made, easily absorbed and assimilated, and, above all things, otherwise harmless. So long as the rectum is available, we

trust to it to absorb peptonized foods, which in many cases act satisfactorily, albeit slowly. But when the rectum is unavailable, or it is necessary to rapidly supply one of the most important foods, we have to look to other ways. Fortunately, we have in pure glucose a food of considerable value, in which combination is very active, and is not being compensated for by other or ordinary food. This carbohydrate is easy to procure, is very soluble, and in proper amount is perfectly safe when injected under the skin. The sugar is used up somewhere in the system, always with benefit, and he has never seen any ill results from its use. Any solution to be used in this way should, of course, be sterile: this means that it must be able to withstand boiling without alteration. Then, too, the solution must be first carefully graduated so that its osmotic tension is actually, or very nearly, that of the blood. If not so, the injection will cause pain, and in many cases will cause osmotic destruction of the blood-corpuscles or narcotic changes in other tissues. A 5% solution of pure glucose is isotonic with the blood just as the 0.9% of common salt in water is and will produce no osmotic changes in the tissues, and such a solution will keep for a considerable time if sterilized by boiling. It should be injected at about blood heat as is saline solution, and the author has found it of great value in supplying water and more or less food to exhausted patients. In some cases its effects were very remarkable and in no case could any injury be traced to it.

**Infected Wounds:** Hal. C. Wyman, in the *Physician and Surgeon* for December, advises that infected wounds of the hands from pricks, hangnail, blisters, abrasions, gunshot wounds, etc., be first treated with gauze soaked in boric acid, one dram mixed with dilute alcohol six ounces, eye and touch constantly alert for tension. The case should be seen twice or three times a day the first three days, by which time the simple lymphangitis will spend its fury if not complicated by a premature incision. Streptococcus infection will be more likely to reveal its presence by more local disturbance, and severer systemic ills, and calls for the free use of eliminatives. Calomel and salts have no superior. We should know, too, that when a hand is thus infected we must attenuate the systemic toxins by copious draughts of soups, gruels and water. Some medicines create a desire and capacity for diluent foods and drink in cases of infections. Tincture of chlorid of iron, in constantly increasing doses—a drop at a time until a dram dose is taken every four hours with a pint of gruel or water—will be well borne and promote the recovery of the patient who must never be forgotten in our zeal to work out the best there is in operative surgery for a wounded or infected hand.

**Orthoform:** Frank H. Murdock, in *American Medicine* for February 18, calls attention to the value of orthoform in the diagnosis of gastric ulcer. He claims that given a patient suffering from a sudden severe pain, in the epigastrium, and if the pain entirely disappears in 20 or 30 minutes after the administration of orthoform we may be certain that the patient was suffering from gastralgia, the result of ulcer of the stomach; for orthoform will not relieve pain in the epigastrium when produced from any other cause whatever. He quotes Hemmeter as saying that it has always been considered desirable to possess a substance which would relieve gastric pain if applied locally in patients afflicted with gastric ulcer, and for this purpose he has used

orthoform. If orthoform is given in cholelithiasis the pain will not cease; but if given in a case of gastric ulcer it will cease promptly, especially if alkali be combined with it. Murdock, however, thinks the alkali superfluous. He has always given plain orthoform and has never seen it fail to relieve gastralgia promptly, no matter how severe, if caused by chronic ulcer of the stomach. *The American Journal of the Medical Sciences*, for January, quotes M. Bardet as to the fact that ointments and liniments made with orthoform are especially dangerous. He states that orthoform ointments should be used with great care, although the powder seems unlikely to cause trouble. He suggests that anesthesine, which has like properties, be substituted for orthoform in ointments.

**Influenza:** *The Medical Council*, for February, gives the treatment of influenza as *rest in bed*, a thorough saline physic (sulphate of sodium), and when it has operated give hot drinks and apply heat to the feet to produce free diaphoresis. This will rid the system of the accumulated poisons and dissipate the acute symptoms. Avoid depressants. Sulphate of sodium has been found a very valuable drug in this disease. A laxative dose every morning upon awaking, and small doses, five grains, every hour throughout the day. Camphor in large doses of the tincture repeated hourly will quickly control the disease in some persons. Ammonium salts, a combination of the chlorid and bromid, are frequently very effective. Quinin in the beginning is the best tonic drug. If there is fever and rapidity of pulse, acetanilid can be given together with camphor monobromate. Strychnin is the best tonic after acute symptoms. For the cough give codein if necessary. Small doses of quinin and an opiate are useful in the beginning of a grip attack.

**Mercury:** In *Merck's Archives* for January, Thomas H. Manly writes of the value of mercury in surgical affections. He believes that in affections of the *serous membranes* it is the most energetic remedy known provided it only be administered early and with a free hand. In the numerous affections of the peritoneum, involving the lower quadrant of the abdomen or the pelvis, mercury stands without a rival, and if judiciously employed will enormously reduce the demand for laparotomy. He believes it of great value in appendicitis in its early stages, in any type of the disease in which the appendix is walled off by adhesive inflammation, whether the appendix be ruptured or not. It is only important that the circulation be quickly charged. It has been his custom for several years to press the mercurials unless symptoms of pyemia are present, when, of course, immediate surgery is demanded. Inunction is his favorite mode of administration in all cases of infection of the peritoneal serous membrane and in ovaritis, salpingitis, or pelvic peritonitis we will often note the most surprising effects after the use of mercurials. The skin should first be cleaned and the mercurial ointment, or the diluted oleate, should be gently rubbed in with a warm hand over the entire abdomen keeping up the kneading for 10 or 15 minutes and using from two to four drams of the ointment at each application, repeating if necessary. He always warns the patient of the possible danger of salivation, although he has never seen an instance of it follow this mode of mercurial medication. In the various types of pelvic peritonitis the stomach is more tolerant, and, conjoined with friction or alone, the mercurial in the form of tablets, one-twentieth grain of calomel every hour or two, may be administered until its effects are obvious.

## The Ohio State Medical Association

### THE SIXTIETH ANNUAL MEETING

COLUMBUS, MAY 10, 11 and 12, 1905

#### HOTELS

Neil House, European Plan, Rates \$1.00 to \$2.50. Association Headquarters, High Street, opposite State House.

Chittenden Hotel, American Plan, Rates \$3.00 up. Spring and High Streets.

Hartman Hotel, European Plan, Rates \$1.50 up. Fourth and Main Streets.

Southern Hotel, European Plan, Rates \$1.00 up. American Plan, Rates \$2.50 up. High and Main Streets.

Park Hotel, American Plan, Rates \$1.50 up. High and Goodale Streets.

American Hotel, American Plan, Rates \$1.00 to \$1.25. West State Street.

Hinkle Hotel, European Plan, Rates 75c to \$1.00.

Hotel Vendome, American Plan, Rates \$1.50 to \$2.50. South Third Street.

Railroad Rates—To secure the rate of one and one-third fare for the round trip, get a certificate from your ticket agent when you purchase your ticket for Columbus. This certificate, when endorsed by the Secretary of the Association and the Special Agent of the Central Traffic Association, entitles the holder to a return ticket for one-third of the regular fare.

Tickets should not be purchased more than three days prior to the meeting, and they are good three days after the meeting.

The Special Agent will be in attendance on Thursday, May 11th, and the certificates must all be in the possession of the Secretary on or before that day.

#### PROGRAM

Wednesday Morning, May 10, Meeting of the House of Delegates, Y. M. C. A. Building. Call to order at 11 o'clock. Miscellaneous Business. Nomination and Election of Nominating Committee. Nomination and Election of Committee on Scientific Work. Nomination and Election of Committee on Public Policy and Legislation. Nomination and Election of Committee on Publication

Wednesday Afternoon—General Meeting. Call to Order at 1:30 P. M. Report of Committee of Arrangements.

##### Address of Welcome

HON. R. H. JEFFREY, Mayor of Columbus

On Behalf of the Profession of Columbus

STARLING LOVING.....Columbus

Response by the President

Address of the President

S. S. HALDERMAN.....Portsmouth

##### Pernicious Anemia, With Case Reports

J. H. J. UPHAM.....Columbus  
Columbus Academy of Medicine

##### Atypical Forms of Pneumonia

ROBERT RAMROTH .....Marion  
Marion County Medical Society

Gastric Features of One Hundred and Fifty Cases of Pulmonary Tuberculosis

L. A. LEVISON.....Toledo  
Toledo and Lucas County Academy of Medicine

Report of a Case of Rabies, With Reference to the Statutes Regarding This Disease  
**ALBERT S. BARNES**.....Groveport Columbus Academy of Medicine  
 The General Practitioner  
**A. B. SWISHER**.....Marysville Union County Medical Society  
 Contract Practice  
**JAMES F. FITZSIMMONS**.—Bucyrus Crawford County Medical Society  
 Senile Atony of the Bladder  
**C. M. HARPSTER**.....Toledo Toledo and Lucas County Academy of Medicine  
 Diseases of Lachrymal Sac. Abscess and Treatment  
**JOSEPH SAGER** .....Celina Mercer County Medical Society

Wednesday Evening—Meeting of the House of Delegates, Y. M. C. A. Building. Call to Order at 8:00 o'clock. Reports of Officers and Committees. Reports of the Councilors. Miscellaneous Business.

Thursday Morning, May 11, Surgical Section—Auditorium of the Board of Trade. Call to Order at 9:00 A. M.

Operation for the Cure of Large Inguinal Hernias  
**J. U. BARNHILL**.....Columbus Columbus Academy of Medicine  
 Mammary Gland—When and How Shall It Be Removed.  
**BEN R. McCLELLAN**.....Xenia Greene County Medical Society  
 Breast Cancer—An Analysis of Ninety-Two Cases Operated  
**GEORGE W. CRILE**.....Cleveland Academy of Medicine of Cleveland  
 Surgical Pathology of One Hundred Mammary Tumors  
**WILLIARD J. STONE** .....Toledo Toledo and Lucas County Academy of Medicine

Thursday Morning, May 11, Medical Section—Y. M. C. A. Auditorium. Call to Order at 9:00 A. M.

The Social Status of Tuberculous People  
**W. W. PENNELL**.....Mt. Vernon Knox County Medical Society  
 Congenital Word Blindness  
 Its difference from the acquired form, the so-called Alexia, the rarity of the condition, the importance of its recognition in regard to the education of the child.  
**W. E. BRUNER**.....Cleveland Academy of Medicine of Cleveland

The Treatment of Benign Strictures of the Rectum  
**L. R. FAST**.....Paulding Paulding County Medical Society  
 Exophthalmic Goitre  
**JOSEPH RANSOHOFF**.....Cincinnati Academy of Medicine of Cincinnati  
 Infection of Gall Bladder in Typhoid Fever  
**S. P. KRAMER**.....Cincinnati Academy of Medicine of Cincinnati  
 Quarantine of Diphtheria and Scarlet Fever Patients in Rural Districts  
**J. G. WILSON** .....Colerain Belmont County Medical Society  
 Quarantine  
**G. B. SPENCER**.....Weston Wood County Medical Society

A New Truss for Umbilical Hernia  
 Methods and means of treatment in vogue, with the difficulties encountered in their use on infants and children, some being inefficient, some harmful and all or more less inconvenient. Presentation of a truss designed to be both efficient and convenient.  
**S. W. KELLEY**.....Cleveland Academy of Medicine of Cleveland  
 The Treatment of Osteo-Myelitis of Femur by Iodoform Plugging  
**H. J. WHITACRE**.....Cincinnati Academy of Medicine of Cincinnati  
 Anesthetics  
**CHAS. P. KING**.....Newark Licking County Medical Society  
 Ethel Chloride as a General Anesthetic  
**A. H. DUNHAM**.....Dayton Montgomery County Medical Society

Recognition of Glaucoma  
**S. C. AYERS**.....Cincinnati Academy of Medicine of Cincinnati  
 Some Observations on the Blood and Urine Under High Frequency Currents  
**A. L. STEINFELD and L. M. DOLLOWAY**, Toledo  
 Toledo and Lucas County Academy of Medicine

## The Criminal Insane

Crime as the result of congenital and acquired mental defects. Relation between genius and criminal insanity. Necessity for isolation and observations of suspected cases. The duties of the medical witness as seen by the lawyer and by the physician.

- H. S. UPSON.....Cleveland Academy of Medicine of Cleveland  
Treatment for Puerperal Convulsions  
E. GUSTAV ZINKE.....Cincinnati Academy of Medicine of Cincinnati  
Typhoid Fever, Etiology and Pathological Anatomy  
H. BLANKENHORN .....Orrville Wayne County Medical Society

Thursday Afternoon, Meeting of the House of Delegates, Y. M. C. A. Auditorium. Call to Order at 1:00 P. M. Report of Nominating Committee and Election of Officers. Selection of Place of Meeting. Miscellaneous Business. Adjournment.

General Meeting—Y. M. C. A. Auditorium. Call to Order at 3:00 P. M. Address in Surgery.

- Surgical Diagnosis in General Practice  
JOHN B. ROBERTS, Philadelphia, Pa.

- Councilor Work in Ohio  
BROOKS F. BEEBE.....Cincinnati Chairman of the Council

Co-Operative Sanitation—A sketch of the history of sanitary affairs in Cleveland for the last three years

- H. E. HANDESON.....Cleveland Academy of Medicine of Cleveland

Gasto-Enterostomy — A Conservative Measure—The Treatment of Various Diseased Conditions of the Stomach and Intestines

- CHAS. A. L. REED.....Cincinnati Academy of Medicine of Cincinnati

Multiple Erosions of the Stomach  
JOSEPH EICHBERG.....Cincinnati Academy of Medicine of Cincinnati

Thursday Evening, Annual Banquet, Southern Hotel.

Friday Morning, May 12, Medical Section, Y. M. C. A. Auditorium.  
Call to Order at 9:00 A. M.

Association of Hysteria With Organic Brain Lesions

- H. H. HOPPE .....Cincinnati Academy of Medicine of Cincinnati

Some Features of the Diagnosis and Treatment of Associated Gastritis and Nephritis

Frequency with which one lesion is associated with or caused by another. Gastritis and Nephritis frequently associated. Disease in the one organ is apparently some-

## Typhoid Fever With Special Reference to Treatment

J. B. WOODWORTH.....Delaware Delaware County Medical Society

Treatment of Typhoid Fever  
N. T. McTEAGUE....New Lexington Perry County Medical Society

Some Observations on the Treatment of Typhoid Fever

E. D. MOORE.....Moorefield Harrison County Medical Society

## Pneumonia

D. L. McAULLIFFE .....Sidney Shelby County Medical Society

The Importance of a Correct Interpretation of the Source of Pathological Elements in the Urine

1. The most important and significant elements are blood and pus.
2. The causes producing them are many and varied.
3. No judicious treatment can be followed without first knowing the source and cause of the pathological elements.
4. Most methods now in vogue for ascertaining the source and cause are entirely inadequate and utterly unreliable.
5. The newer methods of cystoscopy and ureteral catheterization are the best aids in the diagnosis of the source and cause of these elements.
6. A résumé of two hundred and twenty-five cases.

W. E. LOWER .....Cleveland Academy of Medicine of Cleveland

The Code—The Professor—The Country Doctor

WEBB J. KELLY.....Piqua Miami County Medical Society

## Outside the Beaten Paths

J. D. AXLINE .....Shawnee Perry County Medical Society

times the cause of disease in the other. Necessity of recognizing both conditions clearly, since treatment of one lesion alone may be a benefit or a detriment to the other.

M. J. LICHTY.....Cleveland Academy of Medicine of Cleveland

Out-Door Treatment of Tuberculosis of the Lungs

BENJ. F. LYLE.....Cincinnati Academy of Medicine of Cincinnati

The Treatment of Cerebro-Spinal Meningitis	Three Cases of Mushroom Poisoning
A. E. H. MEARKER.....Napoleon Henry County Medical Society	S. G. SEWELL.....Greenville Darke County Medical Society
A Method of Bimanual Rotation in Occipito-Posterior Positions	Insomnia
W. D. PORTER.....Cincinnati Academy of Medicine of Cincinnati	J. F. PURVIANCE.....Steubenville Jefferson County Medical Society
The Diagnosis of Intra-Cranial Lesions	Therapeutics
J. A. WEITZ.....Montpelier Williams County Medical Society	E. A. WOLF.....Dennison Tuscarawas County Medical Society
 Friday Morning, May 12, Surgical Section, Auditorium of Board of Trade. Call to Order at 9:00 A. M.	
Should Hysteropexia Be Discarded in Child-bearing Women	Ectopic Gestation, Diagnosis and Treatment
WILLIAM J. GILLETTE.....Toledo Toledo and Lucas County Academy of Medicine	W. A. MELICK.....Zanesville Muskingum County Medical Society
Essential Hemorrhage of the Kidney	Treatment of Pruritus Ani, With Report of Cases
The difficulties of diagnosis, the uncertainty of the pathological changes and the surgical treatment	E. A. HAMILTON.....Columbus Columbus Academy of Medicine
F. E. BUNTS.....Cleveland Academy of Medicine of Cleveland	Hemorrhoids
Modern Treatment of Fractures	C. C. WILLIAMS.....Niles Trumbull County Medical Society
ROBERT CARROTHERS.....Cincinnati Academy of Medicine of Cincinnati	The Removal of a Very Large Foreign Body From the Orbit and a Clock Leg From the Right Bronchus
Some Abdominal and Pelvic Emergencies, Medical and Surgical	J. M. LESLIE .....Chillicothe Ross County Medical Society
G. W. MOOREHOUSE.....Sparta Morrow County Medical Society	
The Surgical Treatment of Gastric Ulcers	
W. D. HAINES.....Cincinnati Academy of Medicine of Cincinnati	

### The Anti-Tuberculosis League of Cleveland

President, John H. Lowman, M. D.; vicepresidents, Chas. D. Williams, D. D., M. A. Marks, Mrs W. R. Warner; treasurer, A. L. Withington, Society for Savings; secretary, W. H. Merriam, M. D., Osborn Bldg.; assistant secretary, Howard J. Strong, Chamber of Commerce.

Executive Committee—J. H. Lowman, M. D., Max S. Hayes, Wm. Travis Howard, M. D., Jas. F. Jackson, W. H. Merriam, M. D., M. A. Marks, G. K. Shurtleff, Chas. D. Williams, D. D., A. L. Withington.

Directors—Mrs W. R. Warner, Mr E. W. Haines, Dr W. H. Kinicut, Mr A. L. Withington, Mr W. H. Moulton, Mr G. K. Shurtleff, Mr M. A. Marks, Mr Max S. Hayes, Mr Jas. F. Jackson, Dr W. T. Howard, Jr., Dr J. H. Lowman, Dr E. F. Cushing, Dr C. B. Parker, Dr G. W. Crile, Dr G. W. Moorehouse, Dr W. T. Miller, Dr A. B. Schneider, Dr M. Friedrich, Mr H. H. Hackman, Miss Bell Sherwin, Mrs John H. Lowman, Mrs M. E. Rawson, Rabbi Moses J. Gries, Mr Geo. A. Bellamy, Mr Rufus B. Miles, Mr John Lötz, Mr. I. Opecowsky, Mr Vaclav Svarc, Mr Harry D. Thomas, Mr Saml. P. Orth, Mr

W. H. Brett, Mr Chas. Orr, Mr P. W. Ward, Mr Harris R. Cooley, Rev. Chas. D. Williams, Mr A. I. Newman, Miss Laura Hilliard.

## CONSTITUTION

**Article I. Name.**—This Organization shall be called The Anti-Tuberculosis League of Cleveland.

**Article II. Purposes.**—The purpose of the League shall be: (a) To effect the co-operation of all the organizations and individuals directly or indirectly interested in the study, causes, treatment and prevention of tuberculosis. (b) The study of tuberculosis in its social and economic relationships. (c) The dissemination of knowledge concerning tuberculosis. (d) The furtherance of preventive measures and scientific treatment of tuberculosis.

**Article III.**—The directors for the first year shall be elected by the committee appointed at the initial meeting of the League and shall not be more than 50 and thereafter shall be elected at the annual meeting. The officers of the directorate shall be the officers of the League.

**Article IV. Meetings.**—The meetings shall be held at the times and places set forth in the By-Laws.

## BY-LAWS

**Article I. Membership.**—There shall be four classes of members: (a) Associate Members. Any person who desires to assist in furthering the Anti-Tuberculosis movement and will contribute time and service or money to further its purposes. (b) Active Members. Those who participated in the first meeting, February 3, 1905, and such others as shall from time to time be elected by the Board of Directors. The dues shall be \$1.00 per annum. (c) Life Members. Those who contribute \$100 at any one time. (d) Honorary Members. Persons eminent as philanthropists or sanitarians in the line of tuberculosis or distinguished by their original work on tuberculosis may become honorary members by election of the Board of Directors.

**Article II. Board of Directors.**—Section 1. The Directors shall be selected as far as possible from the various educational, philanthropic, sociologic, scientific and industrial organizations. Other persons who may be especially interested in the subject of tuberculosis and useful to the Society can also be elected Directors.

Section 2. The Board of Directors shall make its own rules, govern the League, plan the work, appoint committees, fill all vacancies, arrange for meetings and attend to all matters pertaining to legislation and administration.

**Article III. Election of Officers.**—The Board of Directors shall annually elect from its own number a President, three Vice Presidents, a Secretary and a Treasurer, who shall be officers of the League as well as of the Board.

**Article IV. Committees.**—Section 1. The Board of Directors shall appoint a committee of nine members from the Directorate who together with the President, Secretary and Treasurer shall constitute the Executive Committee to carry on the executive work of the League.

Section 2. The Executive Committee is empowered to appoint representatives to other organizations or congresses. It shall also from time to time appoint such committees as may be necessary.

Article V. Quorum.—Ten directors shall constitute a quorum of the Board of Directors.

Article VI. Meetings.—There shall be at least one stated annual meeting of the League at such time and place as appointed by the Executive Committee. Special meetings may be called by the Executive Committee.

Article VII. Funds.—The funds from the membership fees or from other sources shall be used for defraying the expenses of the League and for furthering its purposes under the supervision of the Executive Committee.

Article VIII. Amendments.—Propositions to amend the constitution and by-laws may be presented in writing signed by five members of the League at any meeting of the Executive Committee and shall be voted on at a regular or special meeting of the Board of Directors, provided, that notice setting forth there in full the purposed amendment has been sent to each member of the Board of Directors at least five days before the meeting. An affirmative vote of two-thirds of the members present shall be required for adoption.

## The Ohio State Pediatric Society

### MORNING SESSION

- (1) The Normal Moods of Babies and How to Produce Them, Darlington J. Snyder, Columbus; (2) Typhoid Fever in Children, W. W. Pennell, Mt. Vernon; Discussion led by J. W. Dunham, Columbus; (3) Fracture Deformities of Lower Leg in Childhood, Report of Case Illustrated by Skiographs, B. Merrill Rickets, Cincinnati; (4) Hygienic Circumcision, Frederick C. Taylor, Cleveland; Discussion led by S. W. Kelley, Cleveland; (5) The Early Recognition of Hip Joint Disease, Hugh F. Lorimer, Jamestown; (6) Polyneuritis in Children, D. I. Wolfstein, Cincinnati; Discussed by Parke L. Myers, Toledo; (7) Spastic Paralysis in Children from an Orthopedic Stand-point, Gilbert S. Bailey, Cincinnati; Discussion led by Ernest E. Brown, Cleveland.

### AFTERNOON SESSION

- (8) The Formative Period of Early Infancy, Its Opportunities, Elizabeth Campbell, Cincinnati; Discussed by N. R. Coleman, Columbus; (9) A Plea for the Children, W. C. Chapman, Toledo; Discussion led by T. Clark Miller, Massillon; (10) A Few Considerations on Inherited Syphilis, A. Ravogli, Cincinnati; (11) Clinical Consideration of Some of the More Common Dermatoses of Childhood, A Practical Demonstration from Lantern Slides, M. L. Heidingsfeld, Cincinnati; Discussion led by David Kirke White, Cleveland; (12) The Infantile Feeding Chart as an Educator, and what it Demonstrates, Chas. Douglas, Detroit; Discussion led by J. M. Moore, Cleveland; (13) Treatment of Diphtheria, M. J. Albl, Cleveland; Discussed by E. W. Mitchell, Cincinnati; (14) The Care of the Scalp in Infancy and Childhood, David Kirke White, Cleveland.

## Academy of Medicine of Cleveland

The twenty-fourth regular meeting of the Clinical and Pathological Section was held at the Medical Library, Friday, April 7, Dr W. E. Lower in the chair. Dr N. Stone Scott presented a case showing crepitus around the shoulder point, the etiology being in doubt. Dr W. H. Weir showed a large ovarian cyst weighing 73 pounds, successfully removed from a patient aged 71 years. Dr Metzenbaum presented a case of aneurism of the aorta causing a marked bulging of the posterior thoracic wall. Dr W. G. Stern read a paper reporting "Two Cases of Rheumatoid Arthritis in Children"; discussed by Dr Brown. Drs P. H. Krebs and C. D. Selby followed with "Reports of five cases of Trichinosis with Microscopical Demonstration"; discussed by Drs Ladd, Herrick, Scott, Stepp and Buffet. Dr R. E. Skeel presented a paper upon "Case Reports of Various Phases of Nephro and Uretero-lithiasis with Specimens"; discussed by Drs Lower and Foote. Dr T. C. Martin read a "Report of Cases of Fecal Impaction in the Rectum." The instruments especially useful in rectal diagnosis were also shown.

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The eighteenth regular meeting of the Experimental Section was held at the Medical Library, Friday, April 14th. Dr C. Sihler read a paper on "Nerve-Endings in Muscular Tissue"; and Dr Wm. T. Howard, Jr., read a paper on "The Etiology and Pathology of Vaccinia."

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The twenty-seventh regular meeting of the Academy was held Friday, April 21, in the Assembly room of the Hollenden Hotel. The vice-president, Dr E. P. Carter, in the chair. Dr T. Sollmann, one of the members of the Council on Pharmacy and Chemistry appointed by the American Medical Association, presented a "Communication concerning the plan of the American Medical Association dealing with Proprietary Remedies." The following resolution was unanimously passed by the Academy:

Whereas, The Academy of Medicine of Cleveland realizes the many evils connected with indiscriminate use of proprietary medicines by the medical profession; and

Whereas, it believes that an authoritative body, appointed by the American Medical Association, is best adapted to work out a solution of this intricate problem.

Therefore be it resolved, that it endorses the creation of the Council of Pharmacy and Chemistry by the Trustees of the American Medical Association, that it has the fullest confidence in the personnel of this Council, that it approves the general plans and the ten Rules governing the Admission of Articles already formulated by the Council, and that it hereby pledges to this movement its support and hearty cooperation.

Dr M. Metzenbaum read a paper upon the "Investigation of the Ambulance Service of Cleveland." This action has been taken by a committee of the Academy in order to remedy certain abuses of the present ambulance service. Dr Thos. Chas. Martin, who was to present "Plans for its Improvement," was absent. Dr W. E. Lower, read a paper entitled "Diagnosis and Treatment of Surgical Diseases of the Urinary Bladder," illustrating the subject with a large number of original drawings. Dr H. O. Feiss followed with "Ankylosing Arthritis of the Spine; Its Pathology, Recognition and Treatment" and showed a number of stereopticon pictures

of the disease. Dr E. E. Brown read a paper upon "Ideals in Ether Anesthesia, with Exhibition of New Apparatus for its Treatment." Drs Metzenbaum and H. F. Biggar took part in the discussion. Dr C. F. Hoover then described "Cardiac Neuroses Accompanying Digestive Disturbances."

The regular meeting of the Ophthalmological and Oto-Laryngological Section was held Friday, April 25. The program was as follows: "Presentation of Case of Detached Retina and Keratitis Punctata," Dr Edward Lauder; "Wounds of the Ciliary Region," Dr H. G. Sherman; "Presentation of Specimen of Foreign Body in the Eye, with Remarks," Dr B. L. Millikin.

### Alumni Association of St. Alexis Hospital

The regular monthly meeting of the alumni association of resident physicians of St. Alexis Hospital was held April 6th, 8 p. m., at the Hollenden Hotel.

Program—"Dilatation of the stomach following celiotomy," Dr Clarence E. Selby; "gastro-enterostomy," Dr Albert C. McGannon; "Bell's paralysis," Dr Ben Peskind.

### Book Reviews

**Tuberculosis: Recast from Lectures Delivered at Rush Medical College, in affiliation with the University of Chicago.** By Norman Bridge, A. M., M. D., Emeritus Professor of Medicine in Rush Medical College; Member of the Association of American Physicians. Handsome 12mo volume of 302 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, \$1.50 net.

Dr Bridge's work upon tuberculosis is so well known that this volume coming from his pen really needs no introduction. As explained on the title page, it is essentially a recast of lectures delivered at Rush Medical College. A small volume of 302 pages, it comprises all the essential points in the prophylaxis, diagnosis, prognosis and treatment of the disease. Naturally, most space is given to treatment, several chapters being devoted to sanatoria. It is a most valuable work and one we can heartily recommend to both students and physicians.

**A Manual of the Practice of Medicine.** By A. A. Stevens, A. M., M. D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes' Hospital; Fellow of the College of Physicians of Philadelphia, etc. Sixth edition, thoroughly revised, enlarged, and reset. Handsome post-octavo of 556 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Flexible leather, \$2.25 net.

The great popularity of Stevens' Manual is plainly shown in the demand for repeated new editions, the last and sixth edition of this work having been revised, considerably enlarged, and perfected late in 1903. Among those chapters which have been particularly revised, we note those on the disease of the digestive system, malaria, diseases of the blood, diseases of the spinal cord and the subject of gout. In

every way this manual has been brought thoroughly up to date, and as a means of quick review, to enable the student to pick out the essential points, we know of no better work than this. It should be used, however, only in conjunction with a larger text-book.

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Practical Medical Series of Year Books, comprising ten volumes on the year's progress in medicine and surgery. Issued monthly. Under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume X, Skin and Venereal Diseases. Nervous and Mental Diseases. Edited by W. L. Baum, M. D., and Hugh T. Patrick, M. D. September, 1904. The Year Book Publishers, 40 Dearborn Street, Chicago.

This volume of the Practical Medical Series covers the recent work in skin and venereal diseases, including, in chapter 1, a very interesting exposition of the constitutional relationship of skin diseases to other diseased conditions. The special dermatoses and the subject of actinotherapy and radiotherapy are thoroughly reviewed. All the most recent literature on the subject of syphilis of any importance has been incorporated in the consideration of this disease. The subject of the nervous and mental diseases has been edited under the direction of Dr Hugh T. Patrick, with the collaboration of Dr Chas. L. Mix, and includes an extensive resumé of all the recent literature upon this subject.

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Monographs on the Diseases of Metabolism and Nutrition, by Carl von Nuerden, M. D. E. B. Treat & Co., New York City.

These monographs by Dr Carl von Nuerden are too well known to the German reading members of the profession to need any extended introduction. In the translation and publication of these monographs for English readers, an appreciative recognition should be given to the American editor and to the translator who has so successfully rendered the German text into clear and idiomatic English. Part 1, Obesity, devoted to a consideration of reduction cures, is a very instructive and interesting monograph which can be read with profit by every one at all interested in this subject. In addition to a classification of the various grades of ordinary obesity and the indications for treatment, there is a valuable section devoted to the indication of reduction cures in cases complicated by other diseases, as diseases of the kidney, chronic articular rheumatism and gout. Part 2, Nephritis, is divided into five chapters considering first the customary therapy of kidney diseases; second, the process of saving the kidney in renal diseases; third, facts of metabolism as a basis for dietary regulations; fourth, practice of dietetics and physical treatment of acute nephritis; and fifth, the process involved in the treatment of contracted kidney.

As will be seen from these headings, this monograph covers in a thorough way, the important points in the treatment of nephritis. The physiologic facts of metabolism as a basis for the diet in nephritis are carefully and clearly explained. While in no sense an exhaustive treatise, this monograph covers the essential points in a clear and satisfactory way. Part 3, Membranous Catarrh of the Intestines. This monograph will perhaps excite a greater interest in a measure, because of the uncertain knowledge which still hangs about the subject of membranous colitis. The author takes up the pathology, discusses the various facts, goes into the

detail of his own theory, and studies the character of the mucous and the mechanism of the attacks. The treatment of the condition is gone into extensively. The author's list of cases at the end of this volume are extremely interesting and suggestive and go a long way toward explaining the peculiar character of this affection and the difficulty of securing permanent success in this treatment.

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The Practical Medicine Series of Year Books, comprising ten volumes on the year's progress in medicine and surgery. Under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume 11, General Surgery, edited by John B. Murphy, M. D., Professor of Surgery, Northwestern University Medical School. Series 1905. The Year Book Publishers, 40 Dearborn Street, Chicago.

In surgery, more perhaps than in medicine, it is possible to present a greater array of interesting, if not of new facts, and this volume has succeeded well in its review of important literature bearing upon this enormous subject. This series of year books has been accorded an important place in medical literature and if we may judge of the set, by the first two volumes of this year, it will occupy an even more important place in the future than it has in the past.

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Essentials of Practice of Medicine. Prepared especially for students of medicine, by William R. Williams, A. M., M. D., formerly Instructor in Medicine and Lecturer in Hygiene, Cornell University Medical College; Tutor in Therapeutics, Columbia University (College of Physicians and Surgeons), New York. Arranged with questions following each chapter. W. B. Saunders & Company, Philadelphia and London. 1905.

This volume does not pretend to present any new facts and in its combination the standard works most widely used in the medical schools have been drawn upon. In its classification it follows the actual order, considering first infectious diseases, animal parasites, heat stroke and the intoxications, constitutional diseases, diseases of the digestive system, etc. The individual diseases are considered as briefly as is possible and at the end of every subject are incorporated a number of questions, intended to suggest the important characteristics of the disease just considered. For use in conjunction with the more exhaustive text-books this volume is not without its good points and if used in the proper way, should prove of value to the medical student. A very satisfactory index is included, adding considerable to the value of this volume.

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Essentials of Materia Medica, Therapeutics and Prescription Writing. Prepared especially for students of medicine. By Henry Morris, M. D. Sixth edition. Thoroughly revised by W. A. Bastedo, Ph. G., M. D. W. B. Saunders, 1904.

This is the sixth edition of a work which has from the outset been one of the most popular as well as one of the best of the class of compends. It briefly summarizes the essentials of its subjects, and the newer agents which have proved of value, as adrenalin, stypticin, etc., receive recognition. It reflects the present position of therapeutics, and fills very acceptably the place for which it is intended.

## Medical News

Dr and Mrs John T. Frawley have returned to Dayton from their wedding trip in the east.

The Seneca County Medical Society met Thursday evening, April 20. An interesting paper on "Puerperal Eclampsia," was read by Dr Gibbon, of Tiffin.

The Marion County Medical Society held its regular session on April 4, and reports of several cases were received. Some business of interest to the members of the Society was disposed of. The attendance was quite good.

The Sandusky County Medical Association will hold its annual convention in Bellevue, May 4. The principal address will be given by Dr Sackett, of Fremont, on the subject of "Eye Strain." The physicians of Huron County will attend.

The last meeting of the Jefferson County Medical Society was held Tuesday, April 11. The program was as follows: "Clinical History of a Case of Brain Disease," Dr Floyd; "Clinical History of a Case of Paralysis of the Bowels," Dr Vollins; "Follicular Tonsillitis," Dr Giese; "Use of the Catheter," Dr Pearce.

The University of Halle, Germany, has conferred upon Dr Willy Merck, member of the old house of E. Merck, Darmstadt, established in 1668, a very high distinction, namely, the honorary degree of Doctor of Medicine "in recognition of numerous meritorious contributions looking to the advancement of the therapeutic side of medicine."

The Montgomery County Medical Society had the pleasure of listening to the Hon. W. G. Frizell, who made an address on "The Garnishee Law of the State." "Ulcerations of the Stomach" was the subject of the evening, Drs A. H. Dunham, C. H. Breidenbach and F. Henry having papers on the subject and these were followed by the usual general discussion.

The Clark County Medical Society held its regular meeting April 3, at the Commercial Club rooms in Springfield. A paper on "Influenza, More Commonly Known as La Grippe," was read by Dr C. W. Evans. Those who took part in the discussion were Drs F. P. Anzinger, C. S. Ramsey, Henry Baldwin, M. V. Patton and J. C. Easton. The subject for the next meeting is "Tuberculosis."

The Columbian County Medical Society met in Lisbon during the week of April 10 for the first time since December. Dr F. P. Moore, of Lisbon, was elected delegate to represent the Society at the State meeting in Columbus, May 10, 11 and 12. Dr P. C. Hartford, of East Palestine, was elected to represent the Society as essayist. The next meeting of the Society will be held in Salem, May 9.

About thirty members of the Mahoning County Medical Society met at the Y. M. C. A., Youngstown, April 18, to hear Dr John M. Ingersoll, of Western Reserve University of Cleveland, deliver a discourse upon "Etiology of the Third Tonsil." Following the address of Dr Ingersoll, Dr Sol Hartzell spoke upon the "Affections of the Third Tonsil," and Dr Buechner exhibited some specimens of his surgical work.

The Warren County Medical Society held its session April 4. Dr Eason Holbrook addressed the Society on the subject of "Acne Vulgaris"; Dr T. E. Keelor spoke on "What's She Fur?" Both addresses were followed by interesting discussions. Dr J. W. Murphy, of Cincinnati, delivered an address on "The Relation of Accessory Sinus of the Nose," with demonstration and exhibition of specimens.

To an American, Dr Nathan Rosewater, of Cleveland, was given the credit of priority at the last meeting of the German Medical Congress at Breslau, by Dr B. Schmitz, of Bad Wildungen, for first applying the plastic bandage supporting method for the cure of floating kidney and enteroptosis. Dr Rosewater has been asked to join in the collaboration of a new work on Atonia Gastorea by Professor Achilles Rose, of the Post Graduate Medical School, of New York, which is now in press.

The Wayne County Medical Society held a very successful meeting at the Archer House on April 11, with Dr Beer, vice-president, in the

chair. Dr Yocom read an interesting and instructive paper on "Puerperal Eclampsia," and Dr Elder read a paper on "Headaches." Drs Dawson, Stoll and Hay related interesting cases. Officers for the ensuing year were elected as follows: President, Dr Ryall; vicepresident, Dr Yocom; secretary, Dr Johnson; treasurer, Dr Blankenhorn. The next meeting will be held at Orrville on the second Tuesday in July.

The regular meeting of the Ashtabula County Medical Society was held Tuesday evening, April 11. "Typhoid Fever" was the subject up for consideration and the program embraced a paper upon that disease followed by a discussion. Dr J. J. Hogan, of Ashtabula, read the paper which treated the matter in hand in an exceedingly thorough way. The discussion was led by Dr W. S. Weiss, of Rock Creek, who was followed by Drs H. W. Dorman and W. R. Flower. The next meeting of the Society will be held in Ashtabula the first Tuesday in May.

The Tuscarawas County Medical Society held its regular meeting in Uhrichsville, April 4. Dr R. E. Skeel, of Cleveland, gave an address on "The Abuse of Local Treatment, Dilatation and Curettage in Gynecology." Dr G. B. Kirtler, of Newcomerstown, read a paper on "Puerperal Sepsis," and Dr S. B. Hays read a paper on "Puerperal Eclampsia." At the evening session, Dr A. C. Dempster conducted a round table, subject, "Typhoid Fever." A motion was passed that this Society instruct its delegate to the State Association that it is the wish of the Tuscarawas County Medical Society and also the Stark County Society that the State Association meet in Canton next year. Dr T. C. Siffert, Newcomerstown, President; Dr Martha Shalter, Canal Dover, Secretary.

The fourteenth regular meeting of Lake County Medical Society was held Monday evening, April 3, in the Assembly Room, Parmly Hotel. In compliance with the provisions of the constitution and by-laws, this April meeting was selected and set apart for a discussion of the business affairs of the Society and Profession of the county. Five minute talks were given from each name on the program. "Fraternity in the Profession in Lake County," Drs Root and Merriam; "Business Methods of the Profession," Drs Ingerson and Kenning; "Board of Health Reports," Drs Amidon and Quayle; "Increasing the Membership," Drs Moore and Good; "Public Health and Legislation," Drs House and Hawley; "Illegal Practitioners in the County," Drs Todd and Winans; "Our Relation to the Home Hospital," Drs Carmedy and Brady; "Dead Beats," Drs York and Lowe; "How to Increase the Interest of our Meetings," Drs Wilson and Axtell; "The Principles of Medical Ethics," Drs Hudson and Sherman. Dr H. N. Amidon, President; Dr J. W. Lowe, Secretary.

Joseph MacDonald, Jr., has purchased all rights in the *American Journal of Surgery and Gynecology*, and with the April number this *Journal*, thoroughly modernized and largely increased in circulation, appeared from New York as the *American Journal of Surgery*. In this undertaking Dr MacDonald will have the contributory co-operation and support of such well-known surgeons and teachers as: Robt. T. Morris, Professor of Surgery, New York Post Graduate School; Howard Lilenthal, Visiting Surgeon, Mt. Sinai Hospital, New York; J. P. Tuttle, Professor Rectal Diseases, New York Polyclinic; Jas. T. McKernan, Professor Nose and Throat, New York Post Graduate School; Samuel G. Gant, Professor of Rectal Diseases, New York Post Graduate School; Augustin H. Goelet, Professor Gynecology, New York Clinical School of Medicine; C. Wendell Phillips, Professor Diseases of the Ear, New York Post Graduate School; Ferdinand C. Valentine, New York, who, with others, will assist in making a practical Surgical Journal, which in point of interest and usefulness will represent all that years of experience backed by ample capital can produce.

## Deaths

G. F. Leick, of this city, died recently.

R. E. Scott, of Toronto, died April 11.

J. E. Chapel, of New Lyme, died recently.

Gustavus Doren, of Columbus, died March 23.

# The Cleveland Medical Journal

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## Ankylosing Arthritis of the Spine—Its Pathology, Recognition and Treatment

BY HENRY O. FEISS, M. D.

Anybody who is familiar with dissecting-room subjects or with museum specimens, will agree that the condition of ankylosing arthritis of the spine must occur far more frequently than is commonly supposed, and yet so little notice seems to have been taken of it by clinicians that this will be sufficient excuse for bringing the subject to your attention.

A large amount of literature has been devoted to the subject abroad, but in this country it is chiefly through the efforts of Dr Goldthwait that we have come to recognize its importance.

*Pathology:* Briefly, there takes place along the edge of the vertebral discs a proliferation of bone tissue. This proliferation occurs always on one side of the vertebra and not in the middle. Several succeeding vertebrae are attacked and we have a mass of newly formed bone running down the spine as though gravity had governed its course. This mass clamps the succeeding vertebrae together so that the particular part of the spine attacked loses its mobility.

The body of a vertebra may become contracted on the side affected as manifested by the increased concavity on that side. Although it is distinctly an ankylosing process, it is not, strictly speaking, an ankylosis of the vertebrae themselves, but usually an ankylosis derived by newly formed bone which, so to speak, lips the vertebrae together. The tendency of this new bone is to spread backward along the side of the vertebrae until it finally may encroach on the exits of the spinal nerves.

If we slice through one of these dried specimens with a saw, the newly formed bone is found to be very dense and can be

burnished like ivory. Compared with the rest of the vertebra it is much closer in structure and heavier. An X-ray study of a dried specimen shows that the density is dependent on actual fusion of the trabeculae and the fact that such trabeculae which are not fused are very closely packed together. Seen with a microscope this bone seems to be healthy and stains well, but here again shows evidence of extreme density in that the lamellae are very closely packed together.

*Recognition:* The clinical recognition of this condition depends in great part on the knowledge of the pathologic changes just described.

The patient, usually in the prime of life or older, very often comes with the history that he has had an injury of some kind and dates his trouble from that injury. This history of trauma is of noteworthy if not valuable evidence. He complains of pain which may or may not be localized in the spine. It is very characteristic to have pain referred to one of the hips or shoulders. The reason for this is quite manifest. The bony growth, as we have seen, attacks one side of the spine and so the growth broadens out backwards along the path of the ligaments, it finally encroaches upon the foramina of the spinal nerves. If it presses upon one of these nerves, or some of its branches, the result would be pain referred to the nerve ends. This explains the pain so commonly referred to the hip, because such pain would be the result of a process taking place in the lumbar region along the exit of the nerves, going down to the legs. Other symptoms in the hip are limitation in motion due to spasm and a resulting limp so that the patient is likely to walk with a cane. We are also liable to get a change in the knee-jerk, and pain along the paths of the nerves which may reach into the foot. Much the same thing can occur higher up and the pain may be referred to the shoulder, elbow and hand. This would mean, of course, that the process had been near the exit of the brachial nerve roots. Therefore it is not too much to say that every case of disability or pain occurring on one side in either the upper or lower extremity may point directly to a process in the spine.

Examination of the spine itself shows, in the first place, some abnormal attitude. There may be a scoliosis or an increased kyphosis so that the whole spine is arched forward, or there may be, what is commonly seen, a straight, board-like back. If the patient is seen during the acute attack the whole spine may be rigid on attempted motion. This rigidity is due to muscular spasm and to actual ankylosis. If seen between acute attacks the

spasm may have disappeared and we may find only a part of the spine fixed, this fixation being an actual bone ankylosis. Forward bending would, of course, show the lack of mobility, but the great and striking feature is the change in mobility in lateral bending because it is asymmetrical. There is, as a rule, no local tenderness, but the motions are not only stiff but exceedingly guarded. The patient also complains that he has lost in weight and of other constitutional symptoms. The pain is always accentuated during activity so that the patient usually must quit work.

The chief diseases which are confused with this process are extra-spinal, especially lumbago, sciatica and diseases of the hip and shoulder. In lumbago there may be muscular spasm but the mobility of the spine is not limited. Sciatica is a disease limited to the nerve and would cause no limitation of motion in the spine. Diseases of the hip, including tuberculosis and coxae-morbus senilis, may be confused with this condition, but an X-ray of the hip will usually clear up the diagnosis. The essential point to remember is that a careful examination of the back will clear up the diagnosis very readily in distinguishing from any of the above. Diseases of the spine which may be confused with this condition are Pott's disease, inflammation of the pre-mesenteric glands, aneurysm, malignant diseases and sacro-iliac disease. All of these are rare except Pott's disease and disease of the glands. Pott's may be ruled out if there are signs of abscess. It is not always easy, however, to differentiate from this condition. Diseases of the pre-mesenteric glands would present abdominal symptoms.

*Treatment:* In the treatment of this disease the chief consideration is that of irritation due to trauma. The very onset of the disease, which so often comes on after an injury, shows how trauma, if it does not bring on the disease as a cause, at least accentuates it. Much of the clinical history of some of these cases shows that any irritation due to violence increases the pain and this seems to be due to the fact that such irritation stimulates the proliferative process. Therefore the first indication in the treatment is to keep the spine quiet. In order to get the greatest quiescence, the most perfect fixation which is practical must be carried out; but this is not merely to prevent further stimulation and hence further proliferation of bone, but to prevent the bone from constantly rubbing, or interfering with, or jarring against the nerves. It is easy to conceive how a nerve which may not be under pressure if the spine is quiet, may become directly traumatized if the spine is twisted or bent. Therefore, the second indication for fixation is to prevent pain.

The only way in which fixation can be carried out in the spine is by means of a plaster jacket or some substitute. The jacket is applied usually with the patient standing and the back slightly extended by means of a Sayre head support or some such contrivance. This jacket corrects such deformity as is present, although in the first jacket we pay little attention to that, the chief idea being to get fixation.

The other part of the treatment is constitutional. The patient is told to quit work, to get all the fresh air possible, to live on a nourishing diet and to drink a large amount of alkaline water. Some phosphate containing medicine may also be given. The essential thing is the mechanical treatment, but the mechanical treatment can be of greatest avail if the constitutional treatment is carried out faithfully. After a period of from four to six weeks or a little longer, a second jacket is applied with more correction if necessary, and two or three months later still another is applied. At this stage, if the patient is doing well, the spine ought to be less rigid and the spasm ought to have disappeared. Referred pain should have disappeared almost entirely. We must, at this stage, continue treatment just as faithfully as before for fear of exacerbations, but we can substitute either a split jacket or a leather jacket. The advantage of these is that the jacket may be removed so that the patient can take his bath. After this stage we continue some kind of a support, either in the shape of a very light steel brace or what is more practical, a canvas corset.

This, in short, is the plan of treatment for the ordinary case, the idea being to carry out fixation and, later, protection. If such treatment has been carried out it is safe to say that the case will get very much better and practically well.

The rigidity of the spine which is due to ankylosis can never be obliterated, but the pain can be made to disappear and the patient can be made to feel as well as he ever did, always subject, of course, to an arthritic process either in the spine or in some other part of the body.

The following case will illustrate some of the points which we have tried to bring out:

J. B., 40 years old, single, was first seen by me October 24, 1904. Had always been well until eight months previous when he fell on left hip. Had suffered little until four months ago when the pain in his hip returned. Pain worse during movement of leg and radiated down to ankle. At this time pain was localized in sacro-iliac region. Patient had been treated by other physicians for hip disease and had been placed in bed for a number of weeks

FEISS—ANCHYLOSING ARTHRITIS OF THE SPINE



Fig. 1

Photograph of anterior aspect of dried specimen of ankylosing arthritis. Shows asymmetry of process.



Fig. 2

Same case as Fig. 1. Lateral aspect. Shows approximation of growth of the region to the foramina of the spinal nerves.



Fig. 3

X-ray of same specimen taken from the front. Shows lipping of growth and the diffusion of shadow of the growth.

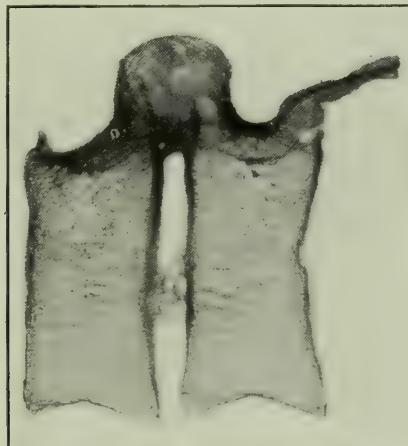


Fig. 4

Specimen of ankylosing arthritis sliced. Shows density of new growth and change in the architecture of the vertebra of the side affected. Vertebrae contracted on the side of the growth as manifested by increased concavity of the border.

FEISS—ANCHYLOSING ARTHRITIS OF THE SPINE



Fig. 5

Patient J. B. After six months treatment.  
Forward bending.



Fig. 6

Same patient bending to left.



Fig. 7

Patient bending to right. In this position the lumbar spine shows rigidity.

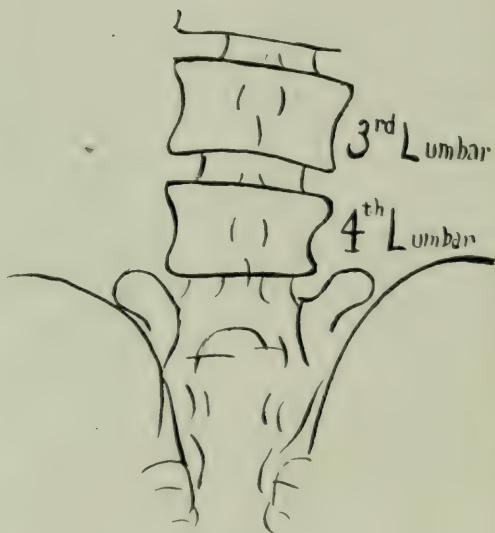


Fig. 8

Tracing of X-ray. Same case. Shows contraction of fourth lumbar vertebra on the left.

but had gained nothing. Examination showed that the motions of the hip were apparently normal except in hyper-extension, which was slightly limited, but all motions at this joint were slow and guarded. Examination of the spine showed considerable limitation in lateral bending to the right and some limitation to the left. Limitation of motion in forward bending was very marked. Patient walked with a slight limp and used a cane. There was a slight lateral curve of the spine to the right. An X-ray of the hip was negative and that of the spine showed contraction of the body of the fourth lumbar vertebra on its left side. The arthritic growth of bone does not show on the X-ray, partly because it is too far from the negative and the shadow is consequently diffused and partly because the deposit of new lime salts in the ligaments had not yet gone on far enough to change the X-ray shadow value. Figure 8 is a tracing of the X-ray.

A plaster jacket was applied. The patient was seen every few days after this and asperin and syrup of hypophosphites were given.

On November 19, plaster jacket was removed and the back found to be more symmetrical, but stiff in forward flexion.

On November 28, a leather jacket was applied. By this time the patient was greatly relieved of pain.

On February 10, 1905, he was still complaining of pain in the right ischium and the examination showed a marked increase of knee-jerk. At this time there was marked limitation of motion in lateral bending.

On April 6, when patient was last seen, he looked very well but still complained of shooting pains occasionally, running down his left hip and thigh. The knee-jerk was normal. He now stood up straight and walked without a cane and for a support he was wearing a leather jacket which he occasionally substituted for a canvas jacket.

Figs. 5, 6 and 7, are photographs taken at that time. Asymmetry still marked, as shown in lumbar spine on bending to right, but there was a marked improvement in mobility in the other regions due to disappearance of muscular spasm.

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## The Hyoscin Treatment of Drug and Liquor Habits

BY HARRISON G. WAGNER  
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During my recent service at the City Hospital I have had the opportunity of observing, in a limited number of cases, the hyoscin treatment of drug and liquor habits. It has been productive of such positive results, particularly in the morphin and cocaine addictions, that I feel justified in reporting the series of twelve cases.

I make no claim of originality either in remedies or method of administration. Other observers have published articles on the subject, but these articles have seemed to me to lack the necessary detail. My colleague, Dr H. V. Riewell, had previously seen patients treated by this method, and I am indebted to him for the details of treatment, as well as for the supervision of the cases in this series.

The active drug in our formula is undoubtedly hyoscin, and its hydrobromate was used in each case. We discovered that a small dose of atropin aided materially in producing the desired effect, and also added minute doses of strychnin.

The administration was almost exclusively by the hypodermic method, under direct supervision of the house physician. The patient was kept under constant surveillance during the entire period of active treatment, for we deemed it an absolute necessity to promptly discover and correct any untoward effects.

The dosage varied with the susceptibility of patients, so that we were able to establish only a general average of doses and intervals between them, a point which becomes apparent in the following description of treatment as well as in the copy of a bedside chart and in the tabulated report of the series.

The average case of drug addiction, whether morphin, cocaine, or both, was treated as follows: On admission the patient was given a hot tub bath, was carefully examined, urinary analysis made, and the preliminary treatment begun with hourly doses of  $\frac{1}{8}$  or  $\frac{1}{4}$  grain of calomel by mouth for eight hours, followed by a full dose of magnesium sulphate. During this period he was given enough of his accustomed drug to keep him comfortable.

The active treatment began from eight to 12 hours after the first dose of calomel, with the initial hypodermic of 25 minims of a solution representing  $\frac{1}{200}$  grain of hyoscin hydrobromate,  $\frac{1}{600}$  grain of atropin sulphate and  $\frac{1}{150}$  grain of strychnin sulphate in distilled water. The first dose was ordinarily without result,

and was followed in two hours by a second, and a third, one and one-half hours later. Subsequent injections were given at intervals of one-half to two hours, and in some cases it was necessary to increase the quantity of hyoscin before its effect was made apparent by dryness of the tongue and throat, flushing of the face, dilatation of pupils, restlessness and delirium.

When the delirious stage was reached the intervals were lengthened to from two to six hours, and the dose diminished if possible to one-half the original, or just enough to keep the patient in a mild delirium, for a period of from 72 to 96 hours.

Little difficulty was experienced in estimating the patient's toleration or in fixing the intervals between doses, as he was under constant, careful observation, was frequently examined and accurate bedside records were kept during this time. The notes on the pulse with regard to rate, rhythm, regularity, volume and tension, and the respiratory rate were made as often as possible, but invariably just before, and one-half hour after each dose at which time the maximum effect of the drug was manifested.

During the second 24 hours of "active treatment" the patient was seized with violent attacks of sneezing, accompanied by nausea, vomiting and diarrhea, which continued for a variable period, in some cases but a few hours and in others the diarrhea and vomiting persisted for several days. These symptoms were never severe enough to require special treatment.

Their onset appeared to mark a crisis in the craving for the customary drug, for if allowed to emerge from the influence of the hyoscin at this time the patient complained very little of the leg pains and other aches, ordinarily so extremely distressing to them when deprived of their drug. Some desire was still evident at this stage and the treatment was continued to the full 72 hours.

At the end of this time it was withdrawn for a sufficient length of time to ascertain whether the cure was complete. If not, as was the case with one who had taken both cocaine and morphine, and another who had used morphine for 12 years, the patient was given an additional 24 or 48 hours of treatment, pushed to the same degree as during the first three days. In each case the patient finally completely renounced his drug or drugs and entered upon the period of convalescence and after treatment.

The pulse during "active treatment" may require special consideration, since the observations in connection with it assist in determining whether doses of medicine should be diminished, intervals lengthened, or whether cardiac stimulation is indicated.

No constant characteristics were noticed, although a rate

between 60 and 70, with fairly large volume, moderately high tension, good duration and undisturbed rhythm were commonly present. The rate occasionally dropped as low as 50, and in some instances increased to 120 beats per minute. The volume sometimes diminished markedly, but arrhythmia was seldom present.

When the rate fell below 50 or increased to over 110, if the volume markedly diminished or an arrhythmia developed, it was promptly remedied by a full dose of strychnin or one-fourth to one-half grain of morphin hypodermatically, at the same time withdrawing treatment for a short time and decreasing the next dose. Morphin seemed to have a positive effect in counteracting any unfavorable symptoms produced by the hyoscin, but was seldom needed and its use seemed to have no effect on the course of treatment.

The temperature varied between the normal and  $100\frac{2}{5}^{\circ}$  during active treatment. The delirium was usually of a mild, busy variety, in which the patient found constant employment picking at imaginary insects, needles and other small objects, frequently throwing bed clothes and mattresses upon the floor and overturning chairs and other articles of furniture in his search for them. He was allowed to walk about the room during this time and was ordinarily very tractable and amenable to suggestion: a few words were sufficient to turn his thoughts from one channel into another, so that we found little call for forcible means of controlling him.

As an exception to the rule I must call attention to one case of liquor habit who was thrown into a state of maniacal delirium by one of the first doses. He attempted to leap through a window, received several cuts from broken glass, and made things extremely interesting for the attendants for a short time. The next dose of one-half the original quantity had a similar effect. The drugs were then administered by mouth, instead of hypodermatically, and the course of treatment carried to completion without further difficulty.

The diet during active treatment was light, it consisted of milk, broths, eggs and toast. The patient usually lost several pounds in weight during this period.

The after treatment during the period of convalescence, if I may use this term, was considered a matter of vital importance. The patient, for years practically sustained by the drug, with a minimum quantity of food and diminished hours of sleep, was anemic, emaciated, and in a state of greater or less exhaustion. He resembled a convalescent typhoid after a siege of severe illness, excepting the danger of relapse from over feeding.

He was extremely nervous and complained bitterly of insomnia. These symptoms were met with one or two doses of chloral hydrate and potassium bromid at night, and after two or three nights of good sleep, the patient required no further hypnotic or sedative treatment. As tonics, arsenic, strychnin and iron were given three times daily. The patient developed a voracious appetite and soon complained that he could not get enough to eat. It may be remarked that the desire for food was not occasioned by the tonics, inasmuch as it was apparent prior to their administration.

This stage of convalescence extended over a period of from two to eight weeks. The diet was without restrictions; the patients were kept in the hospital for three weeks if they could be prevailed upon to remain and when discharged were told to report at certain times to submit a record of their behavior and gain in weight.

It is remarkable that of the five drug cases, three have reported almost upon the very day set for them, the fourth one had the misfortune to be in prison for some misdemeanor, but I have reliable information that she has not taken any of the drug up to this time. The fifth case has failed to report, and I am informed that he is using the drug again.

These reports are fair evidence of complete cure, when one considers the unreliability of drug habitues, and I may add that I have yet to meet with a more grateful class of patients than these unfortunates.

I fully realize that all may have given me false reports since leaving the hospital, but up to the present time (17 weeks since the cure of the first patient, and 12 weeks since the cure of the last) it is evident that they are gaining in weight, strength and general appearance, and I feel certain that none of the first four have suffered a relapse. It may be wise, in view of the limited number of cases and the short space of time since their discharge, to emphasize only the positive points of evidence.

We knew that each patient before taking treatment had been obliged to use his drug every few hours, the longest period ever reached without it in any case was two days. We are also positive that after the treatment each one expressed, not only an absence of desire, but a loathing for the drug, and that during the stay of from five days to two months in the hospital as convalescents not one requested or received a single dose. The following copy of a bedside record of one case may assist in making clear the details of the active treatment. In this case, 12 minimis of the prescription used contained hyoscin hydrobromate  $\frac{1}{200}$  grain, atropin sulphate  $\frac{1}{500}$  grain, strychnin sulphate  $\frac{1}{120}$  grain.

Date 1904.	A. M.	P. M.	NOURISHMENT.	MEDICINE.	REMARKS.
12/7	11.40			Hypo. of B M. xii.	Treatment begun.
	12.30				Up. Walking around.
	12.40			Hypo. of B M. xii.	
	1.10				Waiting at door, wants to smoke.
	1.30				
	1.40			Hypo. of B M. xii.	Pupils dilated, throat dry. Hungry.
	2.10	Water 3 <i>li.</i>			
	2.30				
	2.40			Hypo. of B M. xii.	In and out of bed.
	3.10	Milk 3 <i>vi.</i>			In and out of bed.
	3.30				Talking.
	3.40			Hypo. of B M. xii.	Talking.
	4.10				In and out of bed, had tobacco secreted in bed.
	4.30	Soft diet. Egg on toast. Custard. Milk 3 <i>vi.</i>		Hypo. of B M. xii.	Very nervous, asking for cocaine.
	4.40				Pulse strong.
	4.50				Throat dry, difficulty in breathing.
	5.10				Picking up objects.
	5.30			Hypo. of B M. xii.	Picking at door and wall.
	5.40				Bed torn up, walking around.
	6.00				Picking at wall. Urinated.
	6.30				Bed torn up, restless.
	6.50			Hypo. of B M. xii.	Bed torn up, restless.
	7.00				Bed torn up, nervous.
	7.30				Walking. Laughing. Talking.
	7.50	Milk 3 <i>v.</i>		Hypo. of B M. xii.	
	8.00				Laughing. Talking.
	8.20				Bed clothes on floor.
	8.50			Hypo. of B M. xii.	
	9.00				
	9.30				
	9.50				Moving the bed around the room.
	10.00	Water 3 <i>li.</i>		Hypo. of B M. xii.	Does not care for Hypo.
	10.30				Picking at wall and pulling bed clothes around.
	10.50			Hypo. of B M. xii.	Moving bed around room. Does not like Hypo.
	11.00				
	11.30				Sees objects crawling on wall and bed.
	12.00				
12/8	12.50				
	1.00			Hypo. of B M. xii.	Pulse good. Lying on the floor.
	2.00				
	2.50				
	3.00	Water 3 <i>vi.</i>		Hypo. of B M. xii.	Wandering around the room.
	3.30				Does not like to take Hypo.
	4.50				Walking around the room.
	5.00			Hypo. of B M. xii.	Unwinding twine.
	5.30				Moving about, talking.
	6.00				Looking for a policeman.
	6.30				
	7.00			Hypo. of B M. xii.	Picking at the bed clothes.
	7.30				
	8.30				Putting bed clothes out of room.
	8.50				
	9.00	Milk 3 <i>vi.</i>		Hypo. of B M. xii.	Seeing mice and throwing them off of his bed.
	9.30	Water 3 <i>vi.</i>			
	10.45				Hungry, mouth dry.
	10.50				Back feels sore.
	11.00			Hypo. of B M. xii.	Did not want Hypo.
	11.30	Egg on toast.			Delirious, ate dinner.
	12.00	Milk, tea and bread.			Pupils dilated.
	12.40				Saw rats and bugs in his bed.
	1.00			Hypo. of B M. xii.	Chewing, Coughing, uses coarse language.
	1.30				Sitting on floor, asks for cocaine.
	2.00	Water 3 <i>vi.</i>			Jumping on and off the bed.

Date

		P. M. NOURISHMENT.	MEDICINE.	REMARKS.
1904.	A. M.			
	2.15	Milk 3vi.		Keeps asking for cocaine.
	2.45	Water 3iii.		
	2.50			Moving his bed around the room.
	3.00		Hypo. of R M. xii.	Climbing up on the door and window.
	3.30			Tied in bed.
	4.00	Soft diet.		Pupils dilated.
	4.30			Talking about his mother.
	4.50			Wants to smoke. Crying.
	5.00		Hypo. of R M. xii.	Wants to get away from a street car.
	5.30			Crying.
	6.00			Delirious. Pupils dilated.
	6.30			Asking for cocaine.
	6.50			Talking, Untied.
	7.00		Hypo. of R M. xii.	Talking and whistling.
	7.10			Talking and whistling.
	7.30			Seeing imaginary objects.
	9.00	Milk 3vi.		Talking to people.
	9.50			Trying to climb up on wall.
	10.00	Water 3vii.	Hypo. of R M. xii.	Trying to push wall out.
	10.30			
	11.30			Lying on floor under bed.
	12.00			
12/9	12.50			Lying quietly in bed.
	1.50			Walking around the room.
	2.50	Water 3vii.	Hypo. of R M. xii.	Walking around the room.
	3.00			
	3.30			Talking and Laughing.
	4.30			Bumped head against wall and then cried.
	4.50			
	5.00		Hypo. of R M. xii.	Lying quietly in bed.
	6.00			Sleeping.
	7.00			Sleeping.
	7.50			Sleeping.
	8.00		Hypo. of R M. xii.	Wants to fight.
	8.30			Pulse strong.
	9.30	3viii Milk. Bread.		Delirious.
	10.00	Fish. Toast.		Pupils fully dilated.
	10.50	Water 3iv.		Very thirsty.
	11.00	Milk 3vi. Broth.	Hypo. of R M. xii.	Very hungry and nervous.
	11.30	Bread.		Craving for Cocain.
	12.00			Was out at cupboard after cocaine.
	12.30			Order, not to give Hypo. until pulse drop below 100.
	1.30			
	2.00	Milk. 3viii. Bread.	Hypo. of R M. xii.	
	2.30			Very ugly.
	3.50	Water 3x.		Hungry, Swearing.
	4.00	Milk. 3vi. Bread. Sauce.		Complains of sore throat.
	4.30			Delirious, Driving horses.
	5.50			Delirious, Seeing men in room.
	6.00	Milk 3vii. Water 3x.	Hypo. of R M. xii.	Throat and tongue dry.
	7.00			Delirious, feels cold.
	8.30	Milk 3vi.	Hypo. of R M. xii.	Crying, wants to get out.
	9.50			Throwing bed clothes around room.
	10.50			
	11.00		Hypo. of R M. xii.	Laughing. Quiet.
	11.30			Pulling bed around.
				Very busy.
12/10	12.30			
	1.30	Milk 3vi.	Hypo. of R M. xii.	Talking, pulse good.
	2.00			Gathered his clothes together for the wash
	3.50			
	4.30	Milk 3vi.		Pulse strong, talking.
	5.50			Delirious. Active.
	6.00		Hypo. of R M. xii.	Delirious. Active.
	7.50			

Date 1904.	A. M.	P. M.	NOURISHMENT.	MEDICINE.	REMARKS.
	8.00				Sleeping quietly.
	9.30				Awake, but quiet.
	10.00	Cocao 5vi.	Bread.	Hypo. of R M. xii.	Hungry. Delirious in a restless sleep.
	10.30				Sleeping.
	11.00				Sleeping soundly.
	12.00				Awake. Quiet. Rational.
	1.50				Talking in his sleep.
	2.00			Hypo. of R M. viii.	Wants cocaine.
	3.50				
	4.00	Milk 5vi.	Bread and Beans.	Hypo. of R M. xii.	Very ugly. Asked for cocaine, gave crushed calomel. He detected the difference and became very noisy and disagreeable.
	4.30				
	5.50			Hypo. of R M. xii.	
	6.00				Rational.
	6.30				Asking for bread.
	7.00				Rather noisy.
	7.30				
	7.50	Bread.		Hypo. of R M. xii.	Begging for tobacco.
	8.00				
	8.30				
	9.00				
	9.30				
	9.50	Milk 5v.			Quiet.
	10.00			Hypo. of R M. xii.	Keeps asking for cocaine and tobacco.
	10.30				Threw himself on the floor.
	11.00			Morphin gr. ¼ Hypo.	
	11.30				Quiet.
	12.00				Looking for something in bedclothes. Delirious, will not stay in bed.
12/11	1.00				Asking for his clothes.
	2.00				Sleeping.
	3.00				Sleeping.
	4.00				Sleeping.
	5.00				Quiet. Enjoyed his breakfast.
	6.00				Wants some tobacco.
	7.00				
	8.00	Soft diet.			
	9.00				
	9.30			Bromidia 3i by mouth	
	10.40			Strychnin gr. ½ "	Asked for something to eat.
	10.50				Sleeping.
	11.30	Soft diet.		Bromidia 3i by mouth	Enjoyed his dinner.
	12.00				Sleeping.

The liquor habit was treated in much the same manner; we found it necessary to continue the treatment from six to 14 days and aimed to keep the patient but partly under the influence of the drugs most of the time, and delirious for only one or two hours in each 24. The majority of these cases were admitted in a state of acute alcoholism. They were not consulted as to the desire of giving up the habit, and could scarcely be considered favorable cases. It was impossible to get accurate histories or to prevail upon them to remain long in the hospital after finishing the active treatment.

In the first three cases we used the hyoscin hydrobromate alone and made the mistake of allowing the patient some liquor during the first few days. Later we gave the combination of hyoscin, atropin and strychnin and withdrew the whiskey from the start. The desire for liquor disappeared in from six to 10 days of active treatment.

In one case, that of a woman, admitted with delirium tremens and who remained in the house for 10 weeks after her course of hyoscine, under treatment for some pelvic ailment, we were certain that the desire for liquor had been abolished. She was not a steady drinker and the question of relapse is still in the balance. Another, who had tuberculosis, is still at the City Sanatorium and extremely indifferent as to the desire for whiskey, but is rapidly losing ground as a result of the pulmonary disease. One man, sent to us for this treatment, had chronic nephritis; we began with small doses but after 84 hours he developed uremic manifestations. Treatment was discontinued and he was discharged a week later, apparently none the worse for the abstinence from liquor and the ingestion of drugs.

In the balance of these cases, four in number, the patients seemed to have lost the desire for liquor, some claimed that its smell was nauseating. We were unable to hold them for any length of time, only one returned to report his condition as requested, which leaves us without proof as to the final results. When one considers that the known period of abstinence in these cases is not longer than that seen in the average alcoholic after an attack of delirium tremens, it would seem that we are not warranted in making very positive claims, and I fear that our "cure" in these cases will have the duration of the good resolutions that follow an alcoholic delirium.

The appended table is a condensed report of our series of cases. I believe that our experience will justify the following conclusions:

1st. That hyoscine, particularly when combined with atropine, is antagonistic to the morphin and cocaine habits.

2nd. That its administration in the manner described will abolish the desire for these drugs in from 72 to 144, without suffering or inconvenience on the part of the patient.

3rd. That this treatment is not devoid of danger and it is most important that no case be attempted without a special nurse, day and night, during active treatment, so that the patient is not alone for a minute during this period.

4th. That a course of tonic treatment and rest should follow the active treatment.

5th. That the treatment of the alcohol habit was devoid of positive results, excepting only a temporary loss of the desire.

6th. That the "overpowering desire to sleep" mentioned by pharmacologists as one of the physiological effects of hyoscine, failed to manifest itself, even when this drug was given uncombined with others.

HYOSCIN TREATMENT—DRUG SERIES

ALCOHOL SERIES

## Notes on Waste of Time Incident to Defective Vision

BY L. K. BAKER, M. D., CLEVELAND

While examining eyes with reference to glasses at Lakeside Hospital, and subsequently in private practice, the writer has often noted statements from patients to the effect that they could do but little evening reading or sewing; that they had to take a vacation on account of the eyes; that they were compelled to drop some occupation requiring constant use of the eyes for another less severe in its visual demands. These experiences suggest that of the eye-workers of cities, a large percent are unable to enjoy as many hours per day of those forms of work and pleasure which come to us through vision, as are those of us who possess normal vision.

Consecutive ophthalmoscopic examinations of 206 second grade school children convinced me that the eyes of at least one person in four have abnormal vision to such an extent as to unfit them for the forms of near work incident to city occupations; that the eyes of most of these persons, on account of the eye-strain present, can not be accurately fitted by opticians. What proportion of their time will be lost, in after years, we have no means of estimating, but in the case of school children we can determine. Several years ago, while in the school service, I found that for the entire eighth grade those whom the teachers reported as having defective eyes were six months older average, than the average age of the entire grade-defectives included. Recently I tabulated 300 refraction cases, all school children whose age and grade I had recorded. These were all cases I had refracted, under atropia, and found to require glasses of one or more diopters. They were taken in order as found in the case records in my office.

The average grade of these pupils was that of the fourth year of school. Their average age, at the time of examination was 10.88 years. Referring to one of the annual Cleveland school reports I found that the average age of 8.357 fourth grade children was given at 10.3 years. Since the basis for the age record was the same in either case there is a difference of .58 of a year, seven months, between the defective pupils and those of the fourth grade, including defectives. Could all defectives be eliminated from the fourth grade it is likely that this period would be lengthened to 10 months. In other words these pupils were seven months behind other pupils at the time they were examined and not far from a year behind pupils

with good special senses, whose attendance at school had been regular. This suggests that a fuller examination into the matter will develop the fact that it is from the 9,000 or 10,000 children, annually reported by the teachers as having defective vision, that we must look for the numerous failures and desertions in the grade schools. It also suggests that the school course of study must be administered so as to favor the eyes of children having farsight or astigmatism, or both, or else some far more thorough plan for supplying children with properly fitted glasses must be put in operation. The combination of both suggestions is the more practical course.

In the case of the 300 I found that 97 (32.3%) were boys and 203 (67.7%) were girls. The proportion was 1:2. Seventy-three (24.3%) had simple errors of refraction requiring simple lenses. Two hundred and twenty-seven (75.7%) had astigmatism and far or near sight and received compound lenses. It was further noted that at the time of examination most of these children belonged to the fourth and fifth grades. The annual report of the Superintendent of Instruction for 1900-01, states that of the 11,181 fourth and fifth grade pupils properly tested by teachers, 2,116 (19%) were reported as having defective vision. Of these 365 (17.2%) were wearing suitable glasses. Subsequent statistics show little improvement.

There can be no question that what is true of the school children is largely true of adults; that there are many thousands of eye workers in Cleveland, suffering on account of eye-strain, who are wasting much time, changing occupations or losing positions, who are not having their eyes properly treated; that many go to opticians whose attempts to fit eyes in this condition frequently result in failure, thus bringing preventive treatment, through the use of glasses, into disrepute.

The whole matter simmers down to this. We must recognize the fact that the school course, skilled labor and other conditions, in cities, make demands for visual endurance which one in four of us are not qualified by nature to meet. Knowing this we must apply prevention. We must modify the working conditions in favor of the eyes and obtain early detection, treatment and lenses for abnormal eyes. As yet we scarcely dream of the extent and importance of this matter or appreciate the misery, waste of time and failure incident to defective vision.

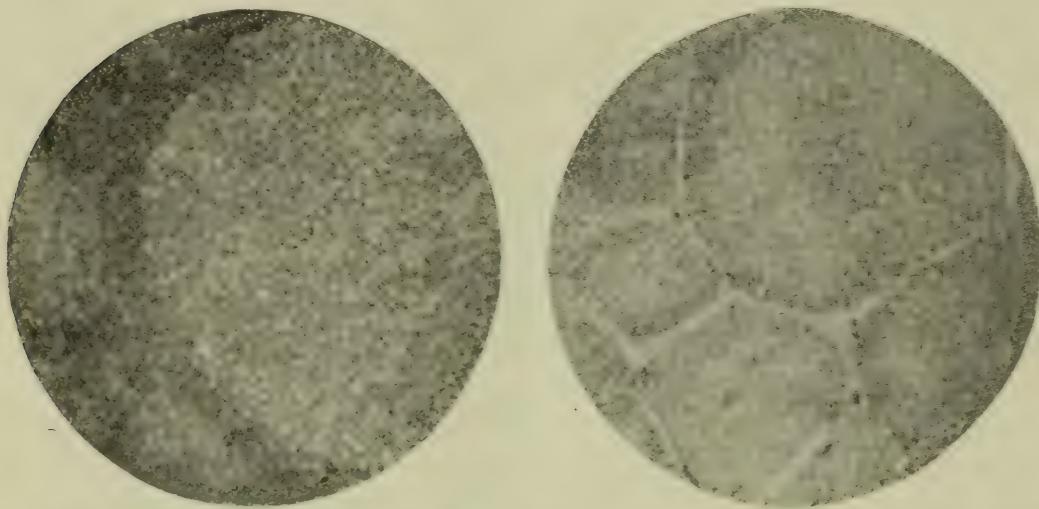
## The Microscope and Micro-Photography

BY F. D. SNYDER, M. D., ASHTABULA, OHIO

As a help in gaining practical knowledge that can be applied to the science of medicine, the microscope stands unrivaled, bacteriology, histology, pathology or morbid anatomy are all branches of microscopy, or at any rate could not have been developed without the microscope.

While rude microscopes, and lenses for enlarging objects, have been used for centuries, it was not until the invention of the compound microscope that this instrument became of any practical use to the scientist, and it was these improvements that made it possible to discover the micro-organisms which are the chief factors in the etiology of disease.

One of the greatest drawbacks to the use of the microscope, in the study of both normal and morbid histology, has been due to the difficulty of getting an accurate reproduction of the image seen, this is overcome by the camera. The results obtained by



Micro-photograph, Cirrhosis of Liver. Micro-photograph, Section of Normal Liver.

the camera are incontestable, and when we have made an illustration by micro-photography we have an exact reproduction of the object studied, one that will appear just as it really is and not as we may think it ought to.

A great many may be expert draughtsmen, while many others are unable to draw what they see. Even when a man is able to make a correct reproduction of what he sees, there is always the personal equation to be contended with, for it is so easy to let our

imagination run away with us and to see things in our own peculiar way, while another observer could not see the picture in at all the same way, but a photograph of the object we are working upon alters this, and shows us exactly the pathologic change that has taken place in the tissue.

A great deal of discredit has been brought upon microscopic photography, but this is due largely to badly prepared microscopical slides, for it is impossible to make a good photograph with a poor slide, and a good slide cannot be made from badly prepared specimens, so, that in order to make a good picture, you must have a perfect slide.

It is not within the scope of this paper to give a full account of photography when applied to the reproduction of the image seen with the microscope, suffice it to say that anyone possessing



A simple home-made Micro-photographic Outfit

an elementary knowledge of photography can easily obtain a photographic reproduction of any tissue or micro-organism that may be required.

There are several important things to be taken into consideration. First of all is the microscope. No special instrument is required, but it must have certain features. It is necessary that it should have a hinge joint, so that it can be placed with the tube of the instrument at right angles to the table. Another important point is that the instrument should have a good tripod base.

In considering the camera, almost anything can be made to do the work, but a long body or long bellows are absolutely essential, and the distance from the upper end of the microscope to the focusing screen should be about 24 inches. There is only one other thing absolutely necessary, and that is that the frame which holds the focusing screen, into which the plate holder carrying the sensitive plate slides, must fit perfectly so that the sensitive plate shall occupy exactly the same position as the focusing screen. This can be accomplished by springs.

After we have our instrument arranged, all that is necessary is to place the object to be photographed upon the stage of the microscope and to focus in the usual way. After we have a good, clear, sharp field, the camera should be focused so as to get the image on the ground glass of the camera just the size we desire, after which the sensitive plate is put in and an exposure made. We can then develop our plate and can get a negative from which a picture can be printed which will show to the unaided eye the same object that we see through the microscope.

When the microscope fell into the hands of Müller, a great reform in medicine took place in the course of a few years. To the cultivated genius of Virchow and Max Schultz, we owe it, that a solid foundation was laid in microscopy; and now with the knowledge of today comes the attachment of the camera which will accurately record the clinical studies and pathologic changes that have taken place and preserve them permanently.

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### The National Association for the Study and Prevention of Tuberculosis

The first annual meeting of this Association was held in Washington, May 18 and 19, under the presidency of Dr Edward L. Trudeau. At the general meeting of the Association held on the morning of the eighteenth, an address was made by the president and by the two vicepresidents, Dr William Osler, of Baltimore, and Dr Hermann M. Biggs, of New York. The afternoon of the eighteenth and the morning of the nineteenth were devoted to the meetings of the sections of which there were three, the Sociological, the Clinical and Climatological, and the Pathological and Bacteriological. The address of Dr William H. Welch, of Baltimore, on the "Channels of Infection in Tuberculosis," was a most illuminating presentation of the subject. Through the courtesy of the secretary of this Association, we have received a number of the papers read at this first annual meeting and shall hope later to make some more extended notice of them. The importance of the meetings of this National Association can hardly be over-estimated, and the interest stimulated by this representative gathering of scientific men and the knowledge of practical value resulting from this united effort should result in immense good to the country at large.

# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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## EDITORIAL

### The Cancer Problem

Notwithstanding the enormous amount of work which has been done in the endeavor to discover the etiology of this disease, we still seem to be far from the solution of the problem. Investigators of this subject are divided into two camps, the one believing in the parasitic origin of these tumors, while the other maintains that cancer is due to some inherent biologic property of the cells themselves. In searching for parasitic causes both blastomycetes and protozoa have been claimed as the etiologic agent, while various hypotheses have been advanced in support of the biologic theory. Of these latter Thiersch believes that the overgrowth of one tissue element at the expense of another is due to a lessened resistance of the latter by which the encroachment of the infiltrating tissue is permitted but he offers no explanation as to the real cause of this lessened resistance. Cohnheim advanced the more attractive hypothesis that "rests" of embryonic tissue may remain dormant in various parts of the body and in certain instances are aroused to activity, producing malignant growths. Ribbert's theory that cancers originate by a

separation of normal tissue elements from their original situation and that once displaced from their normal site, they may develop abnormally. A still later theory is that of Farmer, Moore, Walker and others who think that a cancer may be considered a parasitic individual grafted upon a normal individual, the mitotic characteristics of the cell indicating those of an early fetal rather than the usual somatic type.

The relative merits of these views is discussed by Nichols (*Journal of Medical Research*, Vol 13, No. 2), who conducted experiments upon the implantation of tissue and its relation to cancer. In his summary of the facts he inclines strongly to the biologic etiology of cancer, mainly because very conclusive evidence seems available to refute the principal claims of those supporting the parasitic view. The occurrence of metastases is one of the strongest arguments in favor of a parasitic origin but although these take place along the same routes as infectious processes, the actual origin of secondary growths is absolutely different. They are evidently due to imported cells, not to the proliferation of the cells of the organ showing the secondary growth. The lack of uniformity in the parasites described and the insufficient evidence of the infectiousness of cancer are also arguments against the parasitic theory. If, then, the parasitic theory be untenable the problem becomes a very different one, as our knowledge of biologic processes is limited, and the investigation of them more difficult than if parasites were the causative agent. Nichols' experiments proved rather negative than otherwise in showing a malignant tendency of transplanted tissues even if of fetal origin, although he demonstrated the ability of certain transplanted tissues to grow in their new situation.

He concludes that "certain types of epithelium (epidermis), both adult and fetal, can be experimentally removed from their normal position and implanted into another part of the same animal, and under these circumstances can maintain their 'potentiality of growth,' retain their own peculiar character, and produce nodules analogous to dermoid cysts or more complicated teratomata. In no case has any epithelium of a highly differentiated function been seen to maintain its power of growth or to proliferate. The 'potentiality of growth' is greater in the case of fetal than it is in that of adult tissues. In no case has any infiltration of surrounding tissue by the transplanted epithelium been seen, nor any tendency to epithelial metastases. Certain fetal connective tissues (cartilage) can be transplanted in the same way as epithelial tissues, and retain their 'potentiality of

growth.' Transplanted fetal tissues do not reproduce the stage of development at which they are transplanted, but tend to reproduce the ultimate stage of their normal development."

A very thorough discussion of the etiology of cancer has recently taken place in Berlin. Von Leyden believes firmly in the parasitic etiology although conclusive evidence is as yet not available. Orth maintained the biologic theory and that the essential feature is undoubtedly the cancer cell itself. The prevailing opinion seems to be that the parasitic theory is as yet supported by unsatisfactory evidence.

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### Charity and Spoils

Food for reflection on the relation of politics to State charitable and benevolent institutions is to be found in the excellent papers by Dr Frank H. Wines, ex-secretary of the Illinois State Board of Charities, recently published in the *Chicago Daily News*. A comprehensive history of the development of the State's hospital system of Illinois is given, with a sharp contrast picture of the conditions previous to the Altgeld administration and of those since that date which marked the era of political control carried to more demoralizing extremes by Governors Tanner and Yates. How completely good executive control and efficient medical work can be thwarted, and how thoroughly the noble purposes of these splendid charities can be degraded is clearly set forth in these articles. Illinois now has institutions on a plane so low as to be a disgrace to a modern civilized commonwealth. Political prostitution has reached a point where, according to public reports, assessments are being levied on the officers and employees to aid ex-Governor Yates in his campaign for United States senatorship.

But, as we have previously indicated in these columns, a reaction against this unrighteous political invasion of State Institutions has culminated in making of it a campaign issue in Illinois, and the new governor and assembly are pledged to civil service reform in the appointive officers of the State. A comprehensive merit bill has been emasculated, but one for the State Institutions will be enacted. This step in the right direction has been greatly aided by the medical profession of Illinois in co-operation with the splendid non-partisan organization, the Legislative and Municipal Voters' League, and as demonstrating the reforms it has been possible to bring about through the efforts of the medical profession of the State should give us great encouragement for the future of Ohio State Institutions.

## Ohio State Medical Association

The annual meeting of the Ohio State Medical Association held in Columbus on the 10, 11 and 12 of last month, proved in every way a great success. The attendance was large, something over 600 physicians being present. The program proved an interesting one and a number of the papers read elicited an instructive discussion.

The arrangements made by the local Committee of Arrangements were in every way most satisfactory, though the necessity of assigning the medical and surgical sections to different auditoriums entailed a slight loss of time and some inconvenience. The banquet held at the Great Southern Hotel was largely attended. The after-dinner speakers were followed closely, and touched upon a number of points vitally essential to the profession in such a way as to arouse interest and to lead, we trust, to ultimate further action. To the president-elect, Dr Thomas Charles Martin, we extend our heartiest congratulations. Dr Martin's work in behalf of the profession of the State is too well known to need any comment from us. His election is a fitting tribute of recognition of which we may all be proud, and augurs well for the work of the State Association through the coming year.

### HOUSE OF DELEGATES

The meetings of the House of Delegates were largely attended, a very general representation from the State being present. Apart from the routine business transacted the stand taken by the delegates upon three points of great importance to the profession of Ohio deserve our highest commendation. The resolutions introduced declaring "contract-practice" a violation of our professional ethics and asking that any physician doing contract-work should be expelled from his county society and, further, that any county society countenancing such contract-work should have its charter revoked were referred to a committee, where it is to be hoped that the matter will be properly taken care of. These resolutions were so vague in determining what constitutes "contract-practice" that there was no other alternative open to the House of Delegates. This question is indeed an important one, but one which must be worked out with great care and thoroughness. That there is unquestionably a form of "contract-practice" inimical to the best interests of the profession cannot be denied, but just how to get at the root

of the matter in an equitable and just way remains to be determined.

The action of the House of Delegates abolishing the present form of transactions of the State Association, and their decision to publish in its stead a monthly Journal which shall contain news items of interest to the profession of the State and keep our organization in constant touch throughout the entire year with the progress in medical and legislative lines, meets with our heartiest approval. For the present we understand that the plans for the publication of the State Journal rest wholly with the officers and publication committee of the State Association. The Editor of the Journal has not yet been chosen, neither, we believe, has it been absolutely determined where our State Journal shall be published. From every point of view it seems to us as if Columbus were the natural and proper place for the publication of such a Journal.

Resolutions presented to the House of Delegates by the Academy of Medicine of Cleveland endorsing the action of the American Medical Association in creating a Council of Pharmacy and in the work of that body relative to the question of "Proprietary Medicines" as published in the resolutions appearing in the May number of this JOURNAL, were adopted unanimously by the House of Delegates without a single dissenting voice.

With the decision of the House of Delegates that the next meeting of the State Association shall be held in Canton, we are in hearty sympathy. The sentiment which was given expression to by a number of delegates as to the desirability of Columbus as a possible permanent meeting-place, happily, in our judgment, did not meet with universal approval. While it cannot be denied that the geographical situation of Columbus offers exceptional advantages for such meetings, and while we must all acknowledge and appreciate the kindness and courtesy of the profession of Columbus, it has seemed to us, apart from every other reason, something of an imposition to make any one city a permanent meeting-place. We further believe that the best interests of the profession and of the State Association demand that the annual meeting be held, as at present, every alternate year in a different section of the State. We all know the immense influence for good resulting from the annual meetings of the American Medical Association held in different parts of the country, and it seems to us that the interests involved in our annual meetings are all of just as much importance to the pro-

fession of the State, as are the interests involved in the annual meeting of the parent body to the profession of the country.

The coming year should prove one of great importance and should mark an epoch in the influence of the profession upon legislative affairs of direct interest to us as practicing physicians.

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### As Others See Us—A City Poisoning Itself

Such is the terse way in which Mr Samuel Hopkins Adams describes our local situation as regards our water supply in the June number of *McClure's Magazine*. We heartily commend to our readers the article in which the paragraphs referred to, concerning Cleveland, occur, entitled "Typhoid: An Unnecessary Evil." Mr Adams tells us nothing new concerning our own situation but he draws a vivid picture of the conditions prevailing at the time of his visit. Since the general use of water from the new intakes; however, the typhoid situation is greatly improved, but this improvement is not that which could confidently be expected to result from the employment of an adequate filtration plant. No one will deny his statement that table waters cost Cleveland \$300,000 a year and no one can tell exactly how much typhoid fever costs our citizens, as Mr Adams says several millions at least. We have so repeatedly urged the necessity of an adequate filtration plant that it has become to us a stale and trite subject.

It is unfortunate by contrast with the records of a host of other smaller and larger cities, that Cleveland should appear so utterly regardless of the best welfare of its people. Mr Adams truly says "Cleveland is not going to build a filtration plant at present. It has another scheme on hand, an intercepting sewer which has taken ten years to build already, will take two or three years more and will have cost \$13,000,000 if something does not occur to make it cost \$15,000,000. \* \* \* \* Meantime the city drinks its own sewage."

The one extraordinary paragraph which appears in Mr Adams' article, and the truth of which we cannot call in question, though we are loath to admit it, is his statement that when last in Cleveland, he called upon four physicians recommended to him as specialists on this subject. To them he put this question: "Do the health regulations require physicians to report typhoid?" Three of the four did not know and the fourth was not certain without looking it up! Mr Adams, as a layman, when he learned that deaths from typhoid fever were reported under a variety of

names, fell into the very natural error of supposing that the typhoid mortality of the city, given out by the Health Department, was incomplete. As a matter of fact this is not the case, for deaths reported as due to any synonym of typhoid are classified under that heading.

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### The American Association of Pathologists and Bacteriologists

The annual meeting of the American Association of Pathologists and Bacteriologists was held in Chicago on the 21st and 22d of April. The papers read at the meetings of this association are as a general thing an index of the research work which is being done along these lines throughout the country, as the membership includes the active workers in research of both the east and the west.

Among the most interesting of the papers was one by Pearce, of Albany, New York, on Experimental Cirrhosis of the Liver, in which he was able to demonstrate by slides and sections that in the type excited by certain agencies acting on the centers of the liver lobules, the process was essentially one of repair, necrosis being followed with unexpected rapidity by the formation of fibrous tissue to make up the defect.

A very interesting communication was read by Dock and Warthin, of Ann Arbor, in which the destructive effect of the X-rays on the glands and the blood cells in leukaemia was very well demonstrated. This action on the glands is in accord with the recent work on the sterility produced in the male and the female by the application of the X-ray. In association with this paper was another showing marked kidney lesions occurring in the course of the same treatment. The question of the bacteriology of whooping-cough was taken up by Wollstein, of New York, with the general conclusions that the organisms described hitherto were probably accidental in their presence. The interesting developments which have been the sequence of some of the new staining reactions of Mallory, of Boston, were illustrated by a paper of Southard, from Boston, showing the neuroglia framework in certain lesions of the cerebellum as well as in the normal brain, and in another paper of Wolbach, also a pupil of Mallory's, in which fibers were demonstrated in a malignant tumor of the bladder, not only between the cells but also in them. Dr Howard, of Cleveland, discussed the work done the past winter in the Western Reserve Pathological Laboratories on Vaccinia, and also the recent cases at Lakeside of acute actinomycosis.

## The City Ordinance Relating to the Proper Registration of Births

Our attention has been called, as has that of every physician of the city, to the lax way in which births are reported to the Health Office, and we cannot refrain from emphasizing the importance of the notice, so recently sent out by the Health Office, calling attention to the revised ordinance covering this important matter. The Board of Health has ordered our Health Officer to enforce this section of our ordinance and to proceed against any and every offender according to law. The importance of the proper registration of births is one which cannot be too forcibly impressed upon the profession. In order that our vital statistics may be of any value, it is absolutely necessary that the requirements of the section of the ordinance, which we print below, be complied with. Our Health Officer deserves the hearty support and coöperation of the physicians of our city in this matter. We print below the section referred to in the notices so recently sent out:

"Every physician or person practicing midwifery in the city under whose charge or superintendence a birth shall take place, shall keep a true and exact register of such births, and shall enter the same on a blank schedule to be furnished by the Health Officer, which schedule shall contain a list of the births which shall have occurred under his or her care during the month, and shall set forth as far as the same can be ascertained the full name of the child (if any shall have been conferred), its sex, color, and the full name and occupation of its parents and their birthplaces, the day and place of its birth, and the said schedule shall be delivered duly signed by the practitioner in the form of a certificate at the end of each and every month or within ten days thereafter to the Health Officer, and in case the birth of any child shall have occurred without the attendance of a physician or practitioner of midwifery, it shall then become the duty of the parents of such child to report its birth to the Health Officer in the manner and form and within the period above required."

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## Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

**Potassium Cyanid:** John I. McKelway, in the *American Journal of the Medical Sciences*, for April, states the most important factor in the treatment of cases of cyanic poisoning is the promptness with which it is instituted. Immediate evacuation of the stomach and intestinal canal, the administration of cardiac and respiratory stimulants, artificial respiration, friction to the extremities, and cold affusions to the spine, with the patient in a warm bath, or the use of the alternate hot and cold douche to the spine, offer the best results. Various drugs have been suggested as additions to the water in washing out the stomach; hydrogen peroxid; potassium permanganate; ferric and ferrous salts in combination; carbonate of potash in solution or in combination with sulphate of iron and ether. Of these probably the best is permanganate of potassium, recommended by Kossa and others. Attention is called to Heim's statement that "morphin seems to be the antidote to cyanid of potassium and vice versa."

**Diphtheritic Paralysis:** In *Medicine*, for February (from the *Practitioner*), J. D. Rolleston believes that the mildness and short duration of the majority of cases of diphtheritic paralysis render special treatment unnecessary. This applies especially to ocular and facial paralysis, and to those in which there is a slight nasal tone to the voice. When regurgitation does occur, the food should be taken slowly, and all fluids thickened. When patients begin to cough, it is not safe, especially in young children, to continue mouth feeding. Many children do well on nasal feeding, but when there is cardiac dilatation, and beginning involvement of the diaphragm, rectal feeding should be employed. The short period of pharyngeal paralysis, about ten days, can be easily covered by rectal feeding. To lessen the mucus in the respiratory passages, it is well to raise the foot of the bed. As a rule drug treatment is not needed, but in marked diaphragmatic and cardiac involvement with an accumulation of mucus in the air passages, belladonna or atropin should be given.

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**Scarlet Fever:** Louis Fischer, in the *New York and Philadelphia Medical Journal*, summarizes the treatment of scarlet fever as: first, and foremost, put every scarlet fever patient in bed, and keep him there at least four weeks. The temperature of the room should be between 68° and 70°. Ventilate frequently. It is safer to protect the body with sweet oil, lanolin or carbolized vaseline; (2) the temperature is no guide as to the time when a child should be permitted to leave the bed; (3) the heart and the pulse should be the true determining guide as to the progress and the condition of the patient; (4) the diet should be liquid, and should consist principally of milk and alkaline waters; (5) stimulate the emunctories, as we know we can eliminate toxins through the kidneys, bowels and skin; (6) a hot saline colon flushing one or two quarts, at a temperature of 115° to 120° F., should be given once a day after the first week, regardless of its necessity. It will stimulate diuresis, cleanse the bowel, and nourish the blood. He uses no antipyretic drugs. He gives sulpho-carbolate of sodium, five to 20 grains three times a day, and for the heart, spartein, strophanthus, and five to 20 drops of a 1/5000 solution of adrenalin.

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**Suprarenal Therapy:** Samuel Floersheim, in the *Medical News*, for April 1, administers the suprarenal powder in three grain doses or better in capsule form. The active principle is given internally in doses of from five to 15 drops, in solution of 1/10,000 to 1/1000. To get the best results it should be administered frequently, from one to three hours or oftener as the case may require. The solution is dropped on or beneath the tongue for very rapid effects, or it can be swallowed. Some advocate using it hypodermatically and by electrolysis. Personally, he has never been in favor of the hypodermatic use of the drug, believing it unnecessary, as when placed on the tongue it acts as rapidly as by the hypodermatic method. He has noticed the effect within 20 seconds when adrenalin chlorid was dropped upon the tongue. 1/1000 solutions used subcutaneously have been known to cause great irritation while stronger solutions have given rise to gangrene and subsequently sloughing. Why then, he asks, if we get very rapid results (often within 20 seconds) when it is given by the mouth without the least danger to cause us anxiety,

should one used the hypodermatic or intravenous method with possible dangers? Surgically, it is applied locally to mucous membranes in a strength of 1/5000 to 1/30,000, with or without the addition of other remedies as the case may indicate. Some drugs destroy the active properties of the active principle in solution. Those most often employed and which do not materially affect its valuable and powerful properties, are cocaine, boric acid and normal salt solution. Cyanid and bichlorid of mercury, zinc sulphate, pilocarpin hydrochlorate, and many others have been used in the same solution, but he believes it is better to restrict, up to the present, the addition to the three mentioned. There are no contraindications to its use, and he emphasized the fact that with so powerful a remedy at our command and so extensively employed, no case of poisoning or great anxiety has ever been observed when it had been properly employed and in conservative dosage.

**Mesotan:**

C. F. Kieffer, in the *Therapeutic Gazette*, for March, states concerning mesotan, that it is one

of the newer synthetic compounds, introduced for the local treatment of rheumatism. It is an ester of salicylic acid, containing approximately 71% of that drug. It is a clear yellowish oily liquid with a pronounced ethereal but not unpleasant odor, sparingly soluble in water, but more freely in oils. It depends for its action on the absorption of the drug through the skin, and while some recommend that it be rubbed in, vigorous rubbing may produce a local dermatitis, and to avoid this it is recommended to dilute it with equal parts of olive oil. Kieffer has found that even greater dilutions were effective and sometimes desirable. He found that a 20% dilution was effective in relieving pain, and was almost as quickly absorbed as the more concentrated solutions. No untoward effects were observed from the use of the drug, although systemically observed in large quantities; it produces no effect upon the stomach or digestion, although occasionally slight head noises and ringing of the ears were complained of. To avoid skin irritation, it should be applied in the 50% dilution and should not be rubbed, but painted on, or most gently rubbed with the finger tips. Besides these precautions it is wise not to continue the application of mesotan too long to the same area, but to choose adjacent spots for successive treatment. Its therapeutic effect depends on its action as a salicylic acid compound, and in acute articular rheumatism the effect is most remarkable. He reports one case in which there was severe involvement of both wrists, both elbows, and both shoulders. Twelve grams (about three drams) of pure mesotan were applied to these joints in the morning and evening of the first and second days. The effect was marvelous. The pain disappeared in 24 hours completely; in 48 hours the temperature fell to normal although it had been up to 104.8° on the evening of the first day. Slight recurrences of pain in the joints for seven days following were controlled by one application daily of 40% mesotan. The remedy proved particularly effective in acute cases with involvement of the costal and vertebral articulations. It quieted the severe pain on breathing and gave greater relief than any other means employed. In four cases of gonorrhreal arthritis the remedy was of no service whatever and the same was true in two cases of syphilitic joint pains. In subacute and chronic cases of articular rheumatism it was satisfactory as well as in rheumatism involving the muscles and faciae. In seven cases of acute

gonorrhreal orchitis the whole scrotum was painted with the drug in full strength with remarkably good effects, giving prompt and lasting relief from pain. Mesotan has no other remedial value than that of the salicylates. But while the salicylic preparations by the mouth exert only a systemic effect, mesotan has not only this but a direct local effect probably on the nerve endings in the diseased area. Its use is limited to the purely rheumatic affections and some few diseases of serous structures.

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**Drug Using:** Geo. Hayem, in an article on the excessive use of drugs in the *International Clinics*, Vol. 4, 14

series, believes that it is an interesting fact, that the progress in therapeutics, extending every day, is based on the doctrine of the father of medicine, that of *natura medicatrix*. He believes that in the present state of our knowledge it is our duty to treat chronic disorders that cannot be relieved by specific or serotherapy agents, by what are known as hygienic modifiers, food, fresh air, the special conditions that can be realized by climates. Physical agents (thermic electric) rest, movements, and by the judicious use of mineral waters, either at resorts, or of the artificial saline solutions. As regards tuberculosis, rest in the open air, combined with feeding at high pressure, as is nowadays carried on in sanatoriums. He thinks it advisable that during such cures, drugs should be set aside, and greater care should be taken than is habitual to follow closely the functions of the digestive tube, any disturbance of which is apt to prove an obstacle to the administration of a strongly reconstructive diet.

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**Antistreptococcus Serum:** In the *Medical Record*, for March 4th, J. C. Ayer summarizes the value of the antistreptococcus serum in erysipelas, first, that the administration of antistreptococcus serum shortens considerably the course of uncomplicated attacks of erysipelas; second, that it tends to inhibit extension of the disease; third, that it has a strikingly beneficial effect upon the general condition of the patient, reducing the temperature, pain and discomfort incidental to the disease; fourth, that it rapidly reduces the pathologic leucocytosis; fifth that it prevents or suppresses febrile albuminuria; sixth, that its use is attended with no danger even in large doses; seventh, that the only disagreeable symptom referable to the serum observed by the writer is a transient eruption which occasionally occurs at the site of the injection; eighth, that the efficacy of the serum treatment is in direct ratio to the length of time which has elapsed between the onset of the disease, and the first injection of the serum.

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**Strychnin:** Samuel Floersheim, in the *Medical Council*, for March, believes that in pneumonia in children,

when there is evidence of weakening of the circulation, indicated by labored breathing, pallor, beginning cyanosis, and failing heart sounds, there is an indication for the use of a heart and circulatory stimulant, and one of the best is strychnin. He thinks it imperative to use it when indications are present, whether the patient is six months or six years old, the dose of the remedy being proportionate. He does not hesitate to administer it, when indicated to infants of four to six months, in doses of from 1/800 to 1/500 of a grain every one and a half or two hours, till beneficial effects are

apparent. In desperate cases, and to tide them over a critical period, he has administered as much as 1/300 to 1/250 of a grain every one and a half to two hours; the dose to be rapidly reduced when signs of improvement occur. Great care must be taken to see that an over dose shall not be given, and most gratifying results have been obtained in desperate cases by these large doses.

In children older than one and a half years, larger doses are given according to indications. It is a remedy not to be ignored in infants and children. It must be heroically administered until the desired effects are obtained whenever it is indicated. It must not be abused. When it is used, alertness must ever be observed in order that overstimulation does not destroy the good effects so ardently labored to attain. He does not wish to be understood as advocating the use of this remedy in every case of pneumonia in infants and children. In a number of cases it is not required at all, but when indications for its use arise, then do not hesitate to use it, and use it well.

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**Pyramidon:** Pyramidon is a derivation of antipyrin and the

*American Therapist* states that its action upon the nervous system is very similar to that drug, but much smaller doses are required. It is milder, more gradual and more lasting in its effects. It has been favorably reported on as antipyretic and analgesic in pains of all kinds. Cardiac disease is said not to be a contraindication to the use of pyramidon as disturbance of the circulatory apparatus was not noted under its use. Dubois, who has given pyramidon to many patients, believes it incontestably superior to antipyrin as an analgesic and states that it acts in smaller doses. It takes longer, however, to obtain the desired action, usually two hours, although this is offset by the longer duration of its effects. Pytamidon acts with marvelous efficacy in the lightning pains of ataxia and in minimal doses. The dose for consumptives suffering from hectic is not over seven and one-half grains. In other instances, seven and one-half to 12 grains, although three to five grains is usually sufficient.

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**Constipation:**

In the *Journal of Advanced Therapeutics* for December, 1904, Sigmund Cohn sums up the treatment of habitual constipation as, first, the correction of bad habits; second, the regulation of the diet. The object of the diet is to avoid concentrated animal food and to favor the vegetables rich enough in coarse fiber to make sufficient bulk for the physical stimulation of the intestines, and rich in elements for the formation of organic acids for the chemical stimulation of the intestines; third, the liberal use of water, at least six to eight glasses in 24 hours should not be forgotten. As an example for such a diet, a breakfast may consist of fruit, some cereal with cream and sugar, but no commercial predigested foods as grape nuts or force, rye bread with much butter, besides this some meat or eggs. For dinner, besides soup and meat or fish, plenty of green vegetables, as spinach or cabbage, beets, turnips, potatoes, peas, beans, and again rye bread and butter. As desert, a saucer of prunes or some pudding. Supper should be rather light and consist of cold meat, rye bread and butter, and some stewed fruit, again plums and prunes are preferred.

### Academy of Medicine of Cleveland

The twenty-fifth regular meeting of the Clinical and Pathological Section was held May 5, at the Medical Library. Dr Eliot Alden in the chair. Dr Howard Dittrich read a paper upon "Epithelioma of the Vulva with Case Reports." Discussed by Drs House and Dolley. Dr A. F. House reported a "Case of Fibroid of the Cervix with Pregnancy." Discussed by Drs Crile and Dittrich. Dr R. H. Birge presented the "Report of a Case of Traumatic Asphyxia." Discussed by Drs Alden, Goodwin, Crile and Ehret.

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The nineteenth regular meeting of the Experimental Medicine Section was held Friday, May 12, at the Medical Library. The program was as follows: "The Action of Ergot on the Mammalian Circulation," Drs T. Sollmann and E. D. Brown; "Observations on four Eck's Fistula Operations," Drs F. C. Herrick and H. D. Haskins.

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The twenty-eighth regular meeting of the Academy of Medicine was held Friday, May 19, in the Assembly Room of the Hollenden Hotel. The vicepresident, Dr E. P. Carter, in the chair. Dr Moorehouse read a preliminary report to the members from the Milk Commission. Dr Allen presented a motion asking if the Academy would make use of an auditorium at the Medical Library if such be erected. The motion was seconded by Dr Sherman. After discussion by Drs Ballard, Cook and Carter, it was carried unanimously. Dr G. W. Crile read a paper upon "Immediate Results of Abdominal Section, based on Personal Experience in 2,000 Cases," illustrating the same with a number of tables; discussed by Dr Robb. Dr G. E. de Schweinitz, of Philadelphia, presented a paper "Concerning the Visual Field Phenomena of Functional Nervous Diseases and Their Diagnostic Value." A vote of thanks to Dr de Schweinitz was then passed by the Academy.

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The fourteenth regular meeting of the Ophthalmological and Oto-Laryngological Section was held Friday, May 26, at the Medical Library. The program was as follows: Presentation of Cases, "(a) Dislocation of Lachrymal Gland (?) (b) Piece of Steel in One Eye and Gun-Shot in the Other." Dr Edward Lauder; "Ocular Cysts," Dr D. B. Smith; "Reports of Cases," Dr W. E. Shackelton.

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### Alumni Association of St. Alexis Hospital

The regular monthly meeting of the alumni association of resident physicians of St. Alexis Hospital was held May 4, at 8 p. m., at the Hollenden Hotel.

Program—"Retro-Peritoneal Sarcomata," Dr Karl E. Ochs; "Beriberi," Dr Walter J. Irwin; "Thrombosis of the Cavernous Sinus," Dr Gratian P. Whitwham; "Care of Laparotomies," Dr Ivan J. Yoder.

## Preliminary Report of the Work of the Milk Commission of the City of Cleveland

The Milk Commission selected by the Academy of Medicine, in November, 1904, for the purpose of obtaining certified milk for the city of Cleveland, held its first meeting December 2, 1904.

The members who were present are as follows: Mr Samuel Mather, representing the Chamber of Commerce; Drs H. D. Bishop and E. O. Adams, representing the Homeopathic Medical Society; Drs Cushing, Powell, Kelley and J. J. Thomas, of the Academy of Medicine. The Commission perfected its organization by selecting Mr Mather as chairman, Dr Cushing as vice-chairman, Dr Thomas as secretary and treasurer. Through the generosity of Mr Mather, Mr E. W. Oglebay and Mr S. W. Tyler, the expenses of the Commission were provided for, these gentlemen agreeing to bear the expenses of the Commission for the first year up to \$1,000.

From the ample literature and information obtained by correspondence from the Milk Commissions of Philadelphia, New York and Brooklyn, rules were drawn up for the guidance of the Commission and regulations were adopted for the control of the dairy farms and the distribution of the milk. The Commission in charge of this work selected what seemed to it the best of the methods of all three of the eastern Commissions, as shown by the practical results after several years trial. Circulars were sent, in January last, to all the dealers of the city supplying 100 or more gallons of milk daily, acquainting them with the objects and aims of the Commission and inviting them to coöperate. At the same time the smaller dealers and the public generally were informed to the same effect through the daily papers. As a result, four dealers signified their willingness to coöperate with the Commission, and, in addition, one dairyman who was not a distributor. Of the dealers, two supply by far the greater part of the milk sold in the city. With the directions contained in the circulars as a basis, the dealers promptly proceeded to select certain farms, which, it seemed to them, might with reasonable expenditure be put into shape to meet the requirements of the Commission. Meanwhile, the Commission were casting about for a man to fill the most important office, of veterinary inspector, and after most careful consideration selected Dr Samuel Burrows, a graduate of the Veterinary Department of the University of Pennsylvania.

It was thought advisable before beginning the practical work to send Dr Burrows and Dr Moorehouse, who had been appointed assistant secretary, to Philadelphia, New York and Brooklyn, to enable them to familiarize themselves with their duties, by observing the operations of the Commissions of these cities. Early in February, about 12 dairies under the control of these Commissions, were visited and the officers interviewed. In this way a fund of useful and practical information was obtained.

On his return, Dr Burrows inspected the dairies designated by the dealers, but found, with few exceptions, none which could meet the requirements, unless entirely remodeled. Chiefly on account of the expense involved, the owners of the dairies which could have been put into condition to meet the requirements, decided not to undertake the work, with one exception, that of Mr George R. Canfield, who, as already mentioned,

applied for certification on receipt of the circular. On inspection, Mr. Canfield's dairy was found to require a few changes, which have since been made.

On final inspection, the veterinarian reports that the dairy meets all the requirements of the Commission. The milk is now undergoing chemical and bacteriological examinations preparatory to certification. Since this dairy alone has passed inspection, those dealers who have agreed to distribute certified milk have arranged with Mr. Canfield for their supply, at least for the present.

The price of certified milk ranges in various cities where it is obtainable from 10 to 15 or more cents per quart. The Commission hoped that in Cleveland it would be possible to market this milk at the former figure. The expense of production, however, has been found so great that the dealers are obliged to pay the producer a higher price than was expected, and at 12 cents per quart will have a gross profit no larger than that on ordinary milk. Should the demand be what it should be in a city of Cleveland's size, the larger amount used would result in economies in production and distribution which may make possible a reduction of price.

In a day or two, circulars will be sent to all the physicians of the city and to some 2,500 of the laity, stating the object and aims of the Commission and describing it in detail, the methods by which they are attained, together with the names of the dealers from whom certified milk may be secured. Hence, it only remains at this time to urge upon the physicians of Cleveland the necessity of recommending most earnestly certified milk for infants and invalids, and, in so far as possible, suggesting its use as table milk. The Commission has fulfilled the purpose for which it was formed, to the extent that it has put certified milk upon the market, at a considerable outlay of money by the Commission and at a very great expense to the owner of the dairy and to the dealers. It only remains for the Commission, through the monthly examinations of its experts, to keep the milk up to the standard of cleanliness and purity already attained.

Success or failure from now on lies almost wholly with you. I ask, in behalf of the Commission, your efforts for success.

Respectfully submitted,                    J. J. THOMAS, Secretary.

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## Book Reviews

*Conservative Gynecology and Electro-Therapeutics. A Practical Treatise on the Diseases of Women and their Treatment by Electricity.* By G. Betton Massey, M. D., Attending Surgeon to the American Oncologic Hospital, Philadelphia; Fellow and ex-President of the American Electro-Therapeutic Association; Member of the Société Française d'Electro-Thérapie, American Medical Association, etc. Fourth edition, revised, rewritten and greatly enlarged. Illustrated with twelve (12) original, full-page chromo-lithographic plates; twelve (12) full-page half-tone plates of photographs taken from nature, and 157 half-tone and photo-engravings in the text. Pages XVI-468. Royal octavo. Extra cloth, beveled edges. Price, \$4.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

The author is a leading exponent of electro-therapeutics and has done much to advance the status of this form of treatment. Its usefulness in certain cases is unquestionable but a great deal of harm has been done it in the past by the too extravagant claims made by its advocates. One

of its great objections seems to be the lengthy course of treatment too often required, and the difficulty in persuading patients to persevere until the cure is complete. We do not agree with Dr Massey that it is preferable to operative procedures in cases of ectopic gestation prior to the fourteenth week. In the earlier days of surgery, the question was an entirely different one, but, at present, the surgical treatment of this condition seems infinitely more sure and safe. Ovariotomy is not always necessary as the author infers. The removal of the tube, which is usually hopelessly damaged, is all that is required as a rule. The author speaks enthusiastically of his results in malignant disease and it is earnestly hoped that the permanent results will warrant his confidence. The present edition is thoroughly revised and enlarged. The work is well illustrated and will prove very valuable to any one wishing to employ this mode of treatment.

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**Gynecology, Medical and Surgical.** Outlines for students and practitioners, by Henry J. Garrigues, A. M., M. D., Gynecologist to St. Mark's Hospital in New York City; Consulting Obstetric Surgeon to the New York Maternity Hospital; Consulting Physician to the New York Mothers' Home and Maternity; Honorary Fellow of the American Gynecological Society; Honorary Fellow of the Obstetric Society of Edinburgh; Honorary Member of the College of Physicians of the German Dispensary; ex-President of the German Medical Society; Formerly Professor of Gynecology and Obstetrics in the School for Clinical Medicine, and Professor of Obstetrics in the Post-Graduate School and Hospital. 343 illustrations. J. B. Lippincott Company, Philadelphia and London. 1905.

This work is really an abbreviated edition of the author's larger book on Diseases of Women, which was reviewed in these pages last year. As the work is intended especially for medical students, the essential points of the subject are clearly given without going into too many details, which may be found in the larger edition. The illustrations are numerous; the general appearance of the book is very creditable. It will prove useful, not only to students, but also to many practitioners.

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**Atlas and Epitome of Operative Ophthalmology.** By Dr O. Haab, of Zürich. Edited, with additions, by George E. de Schweinitz, M. D., Professor of Ophthalmology in the University of Pennsylvania. With 30 colored lithographic plates, 154 text-cuts, and 377 pages of text. Philadelphia, New York, London: W. B. Saunders & Company, 1905. Cloth, \$3.50, net.

This is the third volume upon the eye in the excellent series of Saunders' Hand Atlases. All three have been written by Professor Haab, whose name is a guarantee of the value of the books, and edited in the English translation by Dr de Schweinitz. It has been our pleasure to speak very favorably of the two preceding volumes—that upon Ophthalmoscopy and upon External Diseases of the Eye—and this new one upon Operative Ophthalmology forms a very valuable supplement to them and conclusion of the series. While the other two volumes are very helpful to the medical student and general practitioner, as well as the student of ophthalmology, this work should prove especially useful and valuable to the student in eye-work and to those engaged in the active practice of ophthalmology. It is based upon an active, practical experience covering almost 30 years, and while the author has not himself performed

all the operations described, he has, by actual tests, determined for himself the advantages of most of them.

He devotes considerable attention first to various general considerations, as hospital wards and operating rooms, anesthetization, sterilization, antisepsis and asepsis, disinfection and instruments. This chapter is full of valuable suggestions and important details. He avoids general anesthesia as largely as possible. He formerly used ethyl-bromid occasionally but gave it up entirely after an almost fatal experience with it, in which it produced grave cardiac weakness lasting 36 hours. He frequently performs enucleation under local anesthesia after injecting beneath the conjunctiva a mixture of cocaine and eucain. When he does use a general anesthetic in this operation, he allows the patient to come partly from under its influence before he cuts the optic nerve, as upon several occasions he saw the cutting of the nerve, while the patient was in deep narcosis, attended with severe collapse.

He then takes up the various operations. We cannot attempt to review these in detail, but all who are engaged in operative work upon the eye will find the descriptions satisfactory; and the details, so important in ophthalmic surgery, are dwelt upon with a fulness and suggestiveness that should render the book very valuable. The indications for many of the operations are carefully dwelt upon and the points which should guide us in the selection of the particular kind of operation for the individual case. The preliminary and after-treatment receive no less careful attention. He uses a preliminary bandage before an operation for cataract, though the American editor disagrees with him on this point. He always syringes the lacrymal duct the day before or just prior to such operation even though, to all external appearances, it may be perfectly healthy. Any disease of the sac requires very special attention—extirpation of the sac if the ordinary remedies do not afford complete cure. He wears a mouth mask during the operation. As we might expect, he goes carefully into the details of the operation for removal of pieces of steel from the eye with the large magnet. His method is already so well known as not to need any comment. Under strabismus he expresses the opinion that advancement deserves more consideration than it has so far received. Numerous operations and variations for the same object are described with suggestions at times to guide us in our selection. Throughout the volume are numerous comments and additions by the American editor and a few operations, not described by Professor Haab, have been inserted.

There are 30 colored plates picturing various operative procedures or steps in operations, and, in addition, more than 150 cuts aid in elucidating the text. The volume can be most heartily commended and should be in the library of every one practicing operative work upon the eye.

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A Text-Book of Legal Medicine. By Frank Winthrop Draper, A. M., M. D., Professor of Legal Medicine in Harvard University; Medical Examiner for the County of Suffolk, Massachusetts. Octavo volume of 573 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1905. Cloth, \$4.00, net.

This work comprises, within the compass of a single volume of modern size, a most complete and admirable survey of the field of legal medicine. As medical examiner for the city of Boston, for the past 28 years, the author's experience in the investigation of death, where violence was sus-

pected, has been exceptional, and upon this he has largely drawn in the way of details and illustrative cases. He does not recognize the distinction between medical jurisprudence and forensic medicine, holding that whatever term we use, "we mean that department of medicine which teaches the application of every branch of medical knowledge to the needs of the law whether civil or criminal." He points out clearly the duties of the medical witness, and emphasizes the fact that a medico-legal autopsy includes much more than an ordinary postmortem examination. Concerning the recent serum test for blood, the statement is made that "a conservative and judicial reserve is, for the present, the best frame of mind in which to regard the serum test for blood as a medico-legal innovation." In the chapter upon murder by poisoning, toxicology is incidentally treated, and from the practical rather than the scientific side. Under the head of noxious gases, it is stated that water gas is four or five times as dangerous to the public as coal gas, and the rejection of both, so far as is practicable, for artificial illumination is advised. Natural gas, responsible for so many deaths in this section of the country, is not specifically mentioned. The author has given us an excellent and authoritative treatise, one of the very best upon the subject, which will unquestionably become a favorite with the profession.

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The Influence of Growth on Congenital and Acquired Deformities. By A. B. Judson, A. M., M. D., Orthopedic Surgeon to the Out-Patient Department, New York Hospital, 1878-1903; Statistical Secretary of the New York Academy of Medicine; formerly Chairman of the Orthopedic Section, New York Academy of Medicine; formerly President of the American Orthopedic Association; Member of the American Medical Association; Fellow of the American Academy of Medicine; formerly Surgeon U. S. Navy. Illustrated. \$2.00 net. Published by the William Wood & Company, New York.

This is a very useful little volume of 275 pages, devoted to orthopedic subjects, and its purpose is to emphasize the essential fact in the practice of this specialty, "that prevention and cure are to be found in so managing a case, and equipping a patient, that natural growth will be the principal factor in recovery." It comprises the treatment of congenital club-foot, of hip-disease, Pott's disease, etc., the illustrations adding much to its value. It will be found an excellent work not only for the orthopedist, but also for the general practitioner, to whom the majority of these cases are first referred.

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An Introduction to Pharmacognosy. By Smith Ely Jelliffe, Ph. D., M. D., Professor of Pharmacognosy and Instructor in Materia Medica and Therapeutics in the Columbia University (College of Physicians and Surgeons), New York. Octavo volume of 265 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Cloth, \$2.50 net.

The author here gives a concise summary of plant structure, special attention being called to the microscopic appearance, and identification of organic drugs. These are classified as animal drugs, vegetable drugs without organic structure, as the sugar and gums; vegetable drugs with organic structure. Under the head of animal drugs, the leech and Spanish fly are considered, and their uses stated, while under vegetable drugs, the description and chemistry of each is given. The book is intended primarily for pharmaceutical students but will be of aid to those of medicine as well.

**Saunders' Question-Compends.** Essentials of Anatomy, including the Anatomy of the Viscera arranged in the form of questions and answers, prepared especially for students of medicine, by Charles B. Nancrede, M. D., Professor of Surgery and of Clinical Surgery in the University of Michigan; Emeritus Professor of General and Orthopedic Surgery, Philadelphia Polyclinic; Senior Vice-president of the American Surgical Association; Corresponding Member of the Royal Academy of Medicine, Rome, Italy; Member of the American Academy of Medicine, etc. Seventh edition, thoroughly revised. W. B. Saunders & Company, Philadelphia, New York, London. 1904.

There is no gainsaying the fact that the quiz-compends or question-compends, as this series is called, fill an important place in the available literature for the student. In these days of practical laboratory work and in the study of anatomy, it is to be regretted that these compends should still be so much in demand. Inasmuch, however, as the demand exists, we should be ready to acknowledge the excellence of a work of this kind as evidenced by the text of this little volume. Its popularity is further evidenced by the fact that since 1888 there have been seven editions. As a means of quick review of the subject, this work covers the ground thoroughly. It is accurate, and sufficiently descriptive, and small enough to be easily carried about. The press work and typography are excellent.

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**Essentials in Medical Chemistry, Organic and Inorganic,** containing also questions of medical physics, chemical philosophy, analytical processes, toxicology, etc. Prepared especially for students of medicine, by Lawrence Wolff, M. D., formerly Demonstrator of Chemistry, Jefferson Medical College; Physician to the German Hospital of Philadelphia; Member of the German Chemical Society of the Philadelphia College of Pharmacy, etc. Sixth edition, thoroughly revised, by A. Ferree Witmer, Ph. G., formerly Assistant Demonstrator of Physiology, University of Pennsylvania; Neurologist of the Out-Patient Department of the Hospital for Ruptured and Crippled, New York City. W. B. Saunders & Company, Philadelphia, New York, London. 1904.

In the domain of chemistry there is perhaps more justice in the existence of a compend, such as this little volume of 200 pages aims to be. The author has succeeded in gathering together the important points of medical chemistry in a very satisfactory way. The answers to the questions are all full and clear, without being too verbose. As a means of refreshing one's memory, this work, like others of this series, fills an important place in its particular branch.

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**Essentials of Nervous Diseases and Insanity, their Symptoms and Treatment.** By John C. Shaw, M. D., Late Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital Medical School. Fourth edition, thoroughly revised by Smith Ely Jelliffe, M. D., Ph. D., Clinical Assistant Columbia University, Department of Neurology; Visiting Neurologist, City Hospital, New York. Illustrated. W. B. Saunders & Company, Philadelphia, New York, London. 1904.

In this volume, included in the same series, a little different arrangement of the text is undertaken, which, in our judgment, is hardly necessary in the consideration of the subject in hand. The author states in his preface that this work is not intended to take the

place of the large and more exhaustive text-books but is to be used somewhat as a primer for advanced students. Section seven, devoted to diseases of the mind, is really a very valuable statement of the important points in the various diseases considered. As an adjunct to any of the authoritative text-books upon the subject, this volume fills an important place.

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Pneumonia and Pneumococcus Infections. By Robert B. Preble, A. B., M. D., Professor of Medicine Northwestern University. Illustrated. Price, \$1.00. Cloyd J. Head & Co., Chicago, 1905.

This little volume of about 200 pages covers quite completely the subject of which it treats. Each subdivision is fully considered and as to diagnosis the author states that "with pneumonia a diagnosis of pneumonia is no longer sufficient. The causal organism must be sought, and the diagnosis must run, pneumonia due to the Friedlander bacillus, the influenza bacillus, the tubercle or typhoid bacillus, the pneumococcus, etc.," as while a knowledge of this fact does not as yet determine the treatment it has a great influence on the prognosis. While it is knowledge that "the treatment of pneumonia is as unsatisfactory today as it was 200 years ago," the present position concerning it is well stated. A suspension of opinion is advised as to the value of serum therapy, and it is not probable, according to the author, that any of the serums so far employed will be ultimately established in favor. Our therapeutics have not kept pace with our increased knowledge of the etiology, pathology and clinical manifestations of this disease. No specific treatment is at present known, claims to the contrary notwithstanding; but the various plans approved are concisely stated. The work will prove a very satisfactory and practical aid to the busy physician.

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A Handbook of Pathological Anatomy and Histology with an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues, by Francis Delafield, M. D., LL. D., Emeritus Professor of the Practice of Medicine, College of Physicians and Surgeons, Columbia University, New York, and T. Mitchell Prudden, M. D., LL. D., Professor of Pathology and Director of the Department of Pathology, College of Physicians and Surgeons, Columbia University, New York. Seventh edition, with 13 full-page plates and 545 illustrations in the text in black and colors. William Wood & Co., New York.

That this work is one of the best of its kind in the English language is proven by its use as a text-book in most of the leading medical colleges of the country. The subject is so extensive that all the finer details cannot be included in a volume of this size: these are left for the special treatises upon the pathological condition of certain organs or groups of organs in the body, but the main facts of general pathology are very ably and concisely set forth. The chapter on immunity has been rewritten and conveys a very comprehensive impression of the subject. It was impossible, of course, to write at all fully upon this extensive and as yet imperfectly defined topic, but references to the most important contributors are given so that the reader can easily supplement the facts given. In the consideration of tumors a departure has been made in the usual classification. The sarcomata are described as representing the type of embryonal tissue and grouped with fibromata, myxomata, etc., instead of being separately dealt with as distinctly malignant growths. The illustrations and typography are very good and the work a most valuable one.

## Medical News

Dr L. K. Baker has removed his office from the Rose Building to the Lennox Building.

The Hannum Laboratory have removed to larger quarters and are now located at 416-417-418-419 Caxton Building.

The Delaware County Medical Society held its regular meeting May 5. Dr Marie Perfect read an interesting paper which was followed by a lively discussion.

The Allen County Medical Society held its regular bi-monthly meeting, May 16, with a good attendance. The leading feature of the session was a paper read by Dr A. L. Jones, dealing with headache.

A very interesting meeting of the Defiance County Medical Society was held Wednesday afternoon, May 17. The attendance was exceptionally good, and much resulted in the discussions that will bring good to the members.

The fifteenth regular meeting of the Lake County Medical Society was held in the assembly room of the Parmly Hotel, Painesville, Monday evening, May 8. Dr Moore, of Willoughby, presented a case of heart trouble in which excessive action of the organ at times was the chief symptom. Dr C. F. Hoover discussed the case. Following this, Dr Hoover took up the subject for the evening, namely, "The Diagnosis and Treatment of Heart Disease."

The regular monthly meeting of the Montgomery County Medical Society was held May 5 in the Commercial Club rooms, and a large representation of the organization was present. "The Practice of Medicine from a Young Man's Viewpoint," was the subject of a paper read by Dr N. H. McDiarmid; Dr B. R. McClellan, of Xenia, read a paper on "Mammary Glands—How and When to Cure Them." An informal discussion followed the reading of the papers.

At its meeting, May 14, in the mayor's court room, city hall, the Canton Medical Society elected Dr T. H. Shorb, secretary, to fill the unexpired term of Dr Clarence F. Schiltz. After the transaction of business, Dr J. F. Marchand delivered a lecture on the "Treatment of Lobar Pneumonia." The subject was treated in a comprehensive manner, and the discussion held the close attention of the doctors. Reports of cases by Dr E. O. Morrow and Dr J. F. Kahler concluded the program.

Members of the Muskingum County Medical Society met in regular monthly session, May 10, and enjoyed nearly two hours of interesting discussions. During the summer months these regular meetings of the Society will be held at 3 o'clock in the afternoons, at Gant Park. Dr J. R. Lyons read a paper on "Scarleture," and Dr Simeon Kelly reported an interesting case of scarlatina. Dr H. R. Geyer reported an interesting case during his practice. Dr J. L. Geyer, of Norwich, was a guest of the local Society.

The members of the Clark County Medical Society were addressed at their regular meeting May 1, by Dr John P. Sawyer, of Cleveland, who delivered an illustrated lecture on "Disturbance of Bowel Functions with Special Reference to Food Stuffs." Dr Sawyer's address was well received

by the members, who expressed many favorable comments upon the manner in which the speaker handled his subject. A short discussion followed, after which light refreshments were served. There was a large attendance of the membership.

The 135th quarterly session of the Union Medical Association of the Sixth Councilor District met in city hall, Canton, May 16. A lecture on "Surgical Treatment of Paralytic Deformities," by Dr Walter G. Stern, Cleveland; a lecture, "Report of a Case of Removal of the Kidney Following Injury," by Dr A. F. Sippy, Akron; an essay, "Defective Hearing," by E. L. Mather, Akron; valedictory, "Ocular Manifestations in Chronic Nephritis," by Edward Lauder, Cleveland. Reports of cases were given by Drs C. H. Goodrich, Sandyville; J. C. Haney, Dalton; Platt Buch, Seville; C. E. Schilling, Canton; N. W. Culbertson, Massillon; J. C. Temple, Alliance.

A regular meeting of the Columbiana County Medical Association was held Tuesday afternoon, May 9, in City Hall, Salem. The attendance was only fair from out of the city, but a large number of Salem physicians were present. Dr William Moore, of Lisbon, presided, and Dr W. E. Morris, of Lisbon, served as Secretary. The meeting was opened about 1:30, and, after the reading of the minutes of last meeting, Dr G. O. Rowland, of East Palestine, presented a paper on "Congenital Phymosis." A number of other physicians in attendance took part in the discussion. Dr O. A. Rhodes then read a paper on "The Physician as a Business Man," which was followed by a general discussion.

The Gallia County Medical Society met in regular session at Council Chamber in Gallipolis, Tuesday, May 2, at 1:30 p. m., with a good attendance. The annual election of officers resulted as follows: President, Dr J. B. Alcorn, Gallipolis; vicepresident, Dr William Miller, Vinton; secretary, Dr William H. Pritchard, Gallipolis; treasurer, Dr Ella G. Lupton, Gallipolis; board of censors, Dr C. G. Parker, Gallipolis, Dr S. W. Williams, Mercerville, and Dr W. E. Howell, Rio Grande. Drs A. G. Helmick and S. P. Fetters of the O. H. E. were elected to membership. After the transaction of the business of the Society the members listened to an interesting medical program bearing especially on abdominal tumors. The discussion was opened by Dr J. B. Alcorn with the report of a case and was freely participated in by the other members. The next meeting will occur on the first Tuesday in June.

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## Deaths

Dr D. M. Wright, of Logan, died recently.

Dr J. H. Ford, of Auburn, died May 10.

Dr W. H. White, of this city, died May 13.

Dr David G. Proctor, of Thompson, died May 15.

# The Cleveland Medical Journal

VOL IV

JULY, 1905

No 7

## A New Operation for Hernia of the Pelvic Floor (Procidentia) with Report of a Case

BY GEORGE W. CRILE, M. D., CLEVELAND

*Synopsis:* Mrs K. Consultation Dr H. L. Hall, North Amherst. Complete hernia of the pelvic floor. First operation anterior and posterior plastic with repair of perineum. Recurrence in four months. Second operation vaginal hysterectomy with fixation of the round and broad ligaments to the fornix. Recurrence after six months. Third operation, laparotomy with suspension of the pelvic ligaments and vagina to the abdominal wall. Three years and one month later no recurrence.

*History:* The patient had the diseases of childhood; she was married at 20, and had nine children, the youngest of whom is now 16 years old. She has never been well since her first child was born. Her menstrual periods have been regular, and she has had no disease bearing upon the present ailment. She complains of pain and dragging sensations in both sides and in the pelvis, of severe backache, greatly increased on walking. The bowels have been constipated, and there has been great difficulty in micturition. There is a constant vaginal discharge, with loss of appetite, spirits and strength. She also complained of the soreness incident to the ulcer on the cervix.

*Physical Examination:* The patient is well-built, fairly well nourished, short and stout, with a very large accumulation of adipose in the abdomen. No edema. Circulation and respiration are normal with the exception of slight arterial sclerosis. On standing the uterus, the vagina, the broad and round ligaments, the rectum, the bladder, and a considerable portion of the small intestine form a large oval-shaped protrusion, extending almost to the knees. On the cervix there is extensive ulceration. The

mucous membrane is greatly thickened and hardened and is the seat of chronic inflammation.

*The first operation* consisted of an amputation of the cervix, and a reduction of the hernia with extensive anterior and posterior plastic operations upon the vaginal wall, together with as extensive a repair of the perineum as was possible. The difficulty in doing this portion of the operation was due to the almost complete disappearance of the recto-vaginal septum, with marked stretching of all the parts in the extensive descent of the hernia. The patient had had a chronic cough which added greatly to the stress upon the operation.

After four months recurrence was quite marked, though not complete.

*Second Operation:* At this operation a vaginal pan-hysterectomy was done and the round and broad ligaments were sutured to the vaginal wall, closing the top of the pelvis and strengthening the floor as much as available material would permit.

Recurrence of the hernia again took place after six months. At this time the floor of the pelvis and the recto-vaginal septum had entirely given away, and a symmetrical pouch-like sac, containing a very considerable portion of the large and small intestines, was suspended between the thighs. Her sufferings were as great as before and both operations had given her no measure of relief. The Pryor operation, that of obliterating the vagina, was then contemplated, but not accepted by the patient.

*Third Operation:* After considering a number of plans both theoretically and upon the cadaver, the following was executed: In the Trendelenburg posture a median incision of good length was made, approximately one-fourth of the entire abdominal contents were withdrawn from the hernial sac, the pelvic floor studied, and the hernia reduced. The bladder was found well down in this cavity and totally prolapsed. An antero-posterior incision was made across the middle of the floor of the pelvis, dividing the vagina into two lateral halves. The vaginal mucous membrane of the part to be brought through the abdominal was removed. The bladder was separated from the vagina for some distance downward. It was then found that the vagina and the floor of the pelvis had been so stretched that they could be easily brought out through the abdominal wound beyond the surface of the skin. After making an incision through the abdominal fascia, four cm. from the median line on each side, the fibers of the recti were separated and the peritoneum perforated. Each half of the split vagina

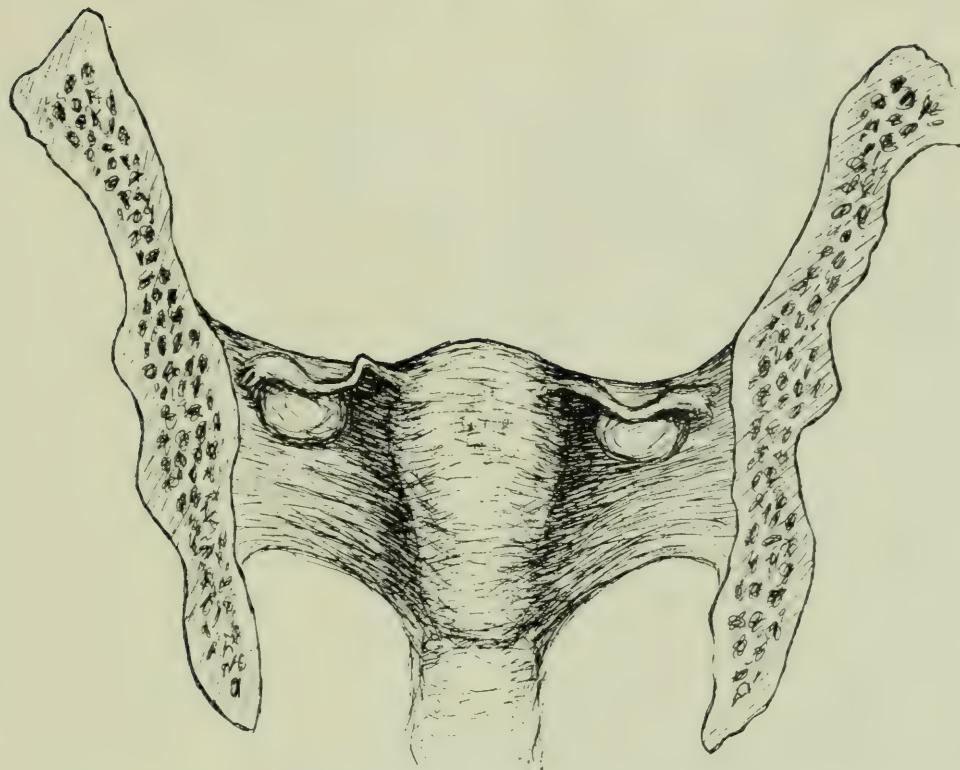


Fig. 1. Schematic representation of the pelvic contents in their normal relations.  
(Frontal section.)

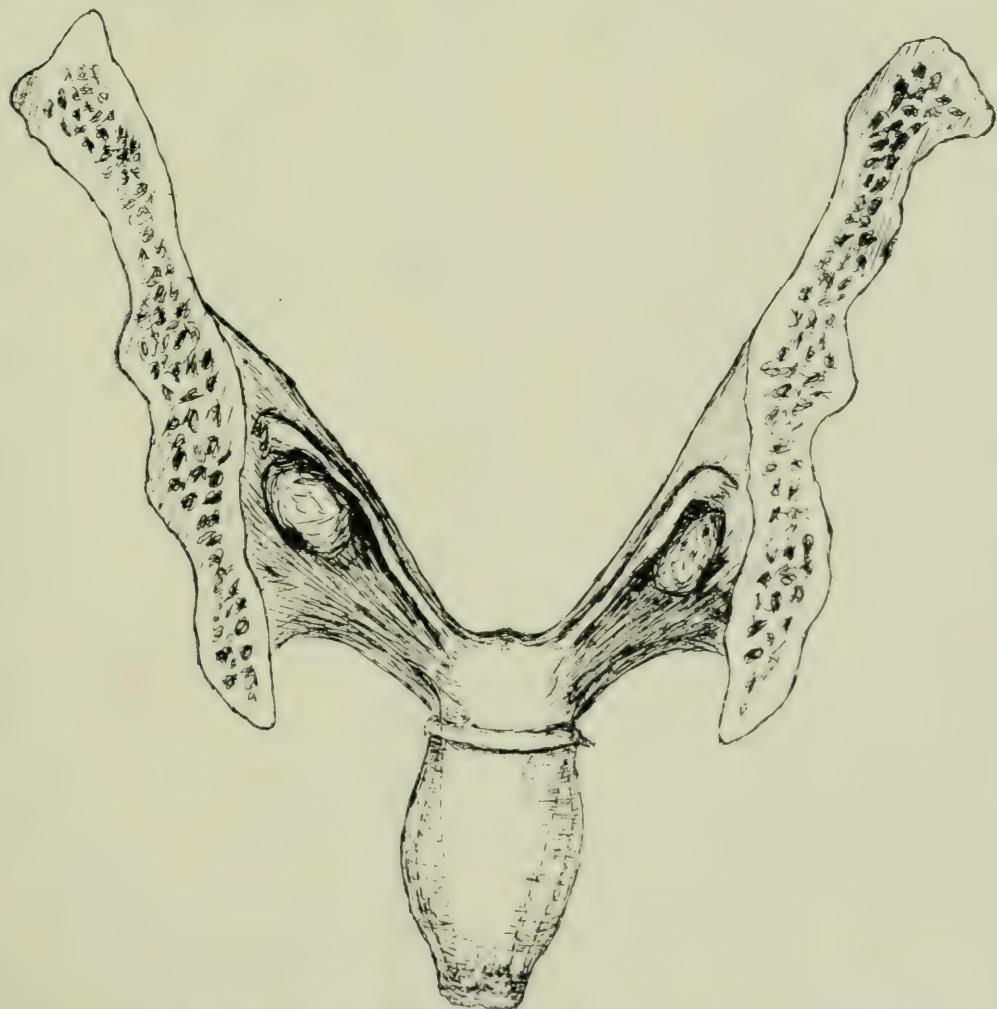


Fig. 2. Showing relations of pelvic structures in pelvic hernia.

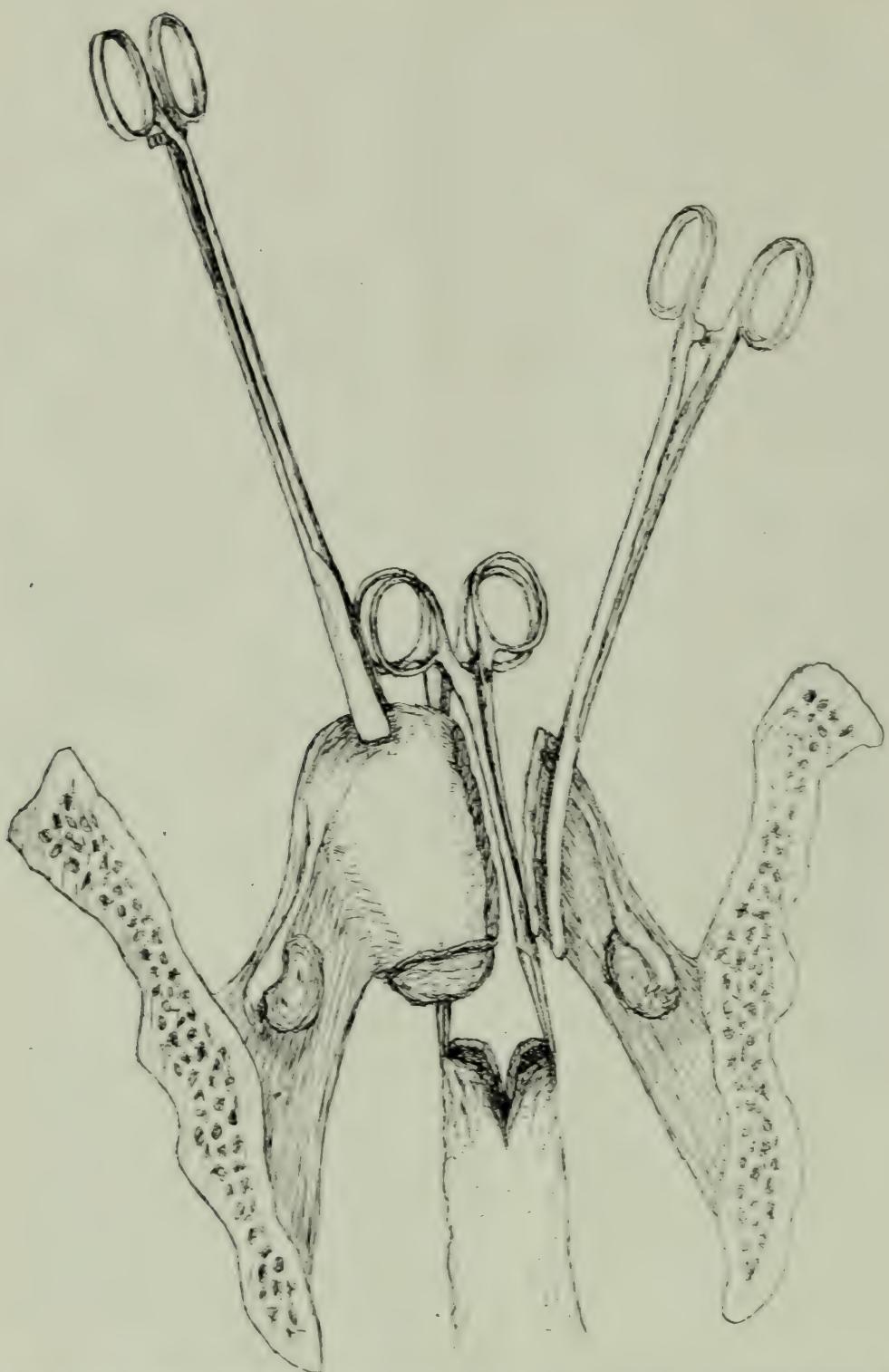


Fig. 3. Showing pelvic hernia reduced, hysterectomy partially completed, vagina split. The free end of the broad ligament and the corresponding half of the split vagina is to be drawn up through the rectus fascia on each side.

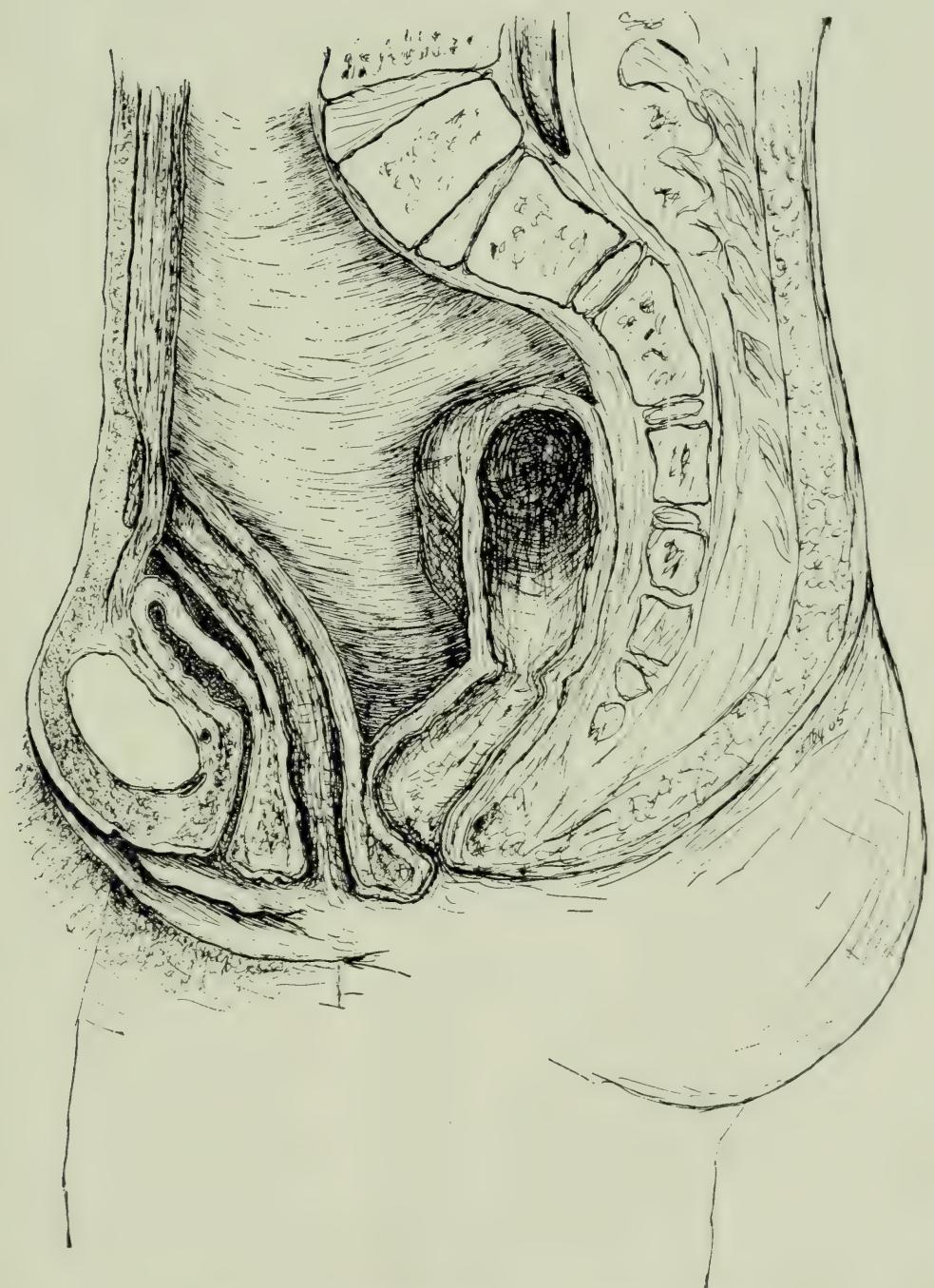


Fig. 4. Sagittal section showing completed operation.

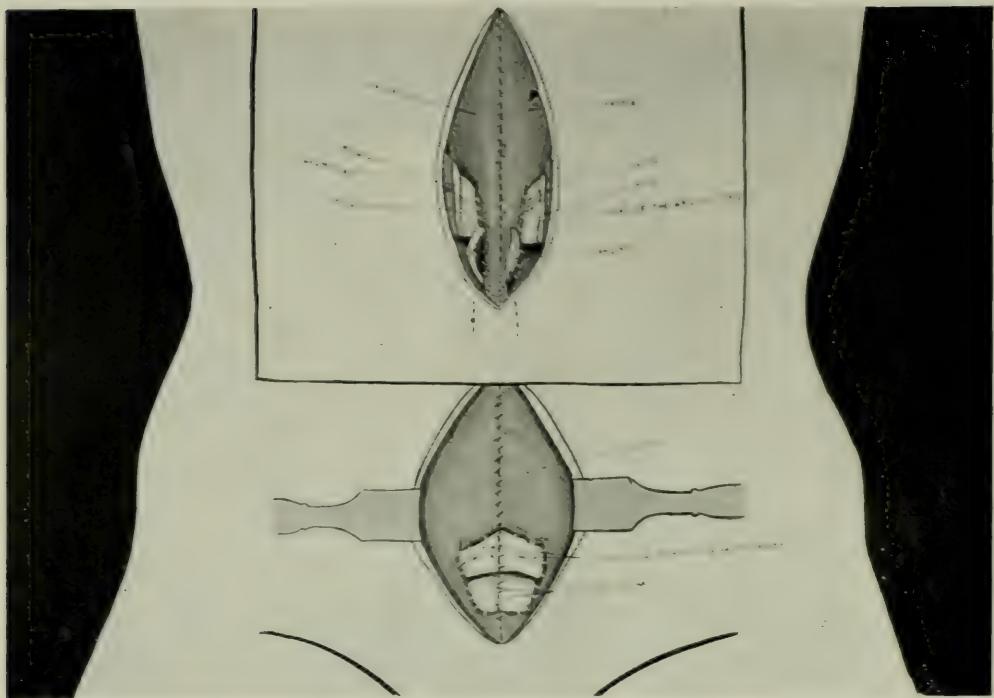


Fig. 5. To show the method of anchoring the pelvic floor to the rectus fascia. The upper diagram shows the ends of the pelvic ligaments and split vagina drawn through the rectus fascia on each side. The lower diagram shows them united across the median line.

with the attached utero-sacral and utero-pelvic ligaments, and all the other structures of the floor of the pelvis together with the round and the broad ligaments, were drawn out through these openings on each side of the median incision. While held well up in place so that the top of the incised vagina presented closely against the under surface of the peritoneum, the peritoneum was closed around this portion with plain catgut. The original peritoneal incision, the muscle and the external fascia were then closed, the latter by continuous sutures of chromicized gut, after which the freed ends of the vagina and pelvic floor, which had been drawn up through the lateral openings in the peritoneum, recti and fascia, were united in the middle line by means of chromicized gut. The skin was then closed.

The patient made a good recovery from the operation and was discharged from the hospital in three and one-half weeks.

*Clinical Results:* For some time after the operation the patient felt a sensation of dragging upon the wound and experienced some pain. This passed away after several months. She has been doing her usual work, and at the present time, more than three years after the operation, there has been no recurrence of the hernia. I have personally examined her at intervals since

the operation and have found that the line of apposition has held. During this time she has had a chronic cough in winter, and has been actively engaged in her ordinary domestic duties.

*Comments:* The difficulties in this operation are due mainly to the great stress upon the pelvic floor in every form of increased intra-abdominal pressure, as coughing, sneezing, laughing, straining, lifting, etc. When the natural pelvic floor has once proven itself too weak to take this strain it is manifestly difficult to add sufficient intrinsic strength by any material available in the immediate territory. That this is a practical difficulty is indicated by the 30.2% of relapses in Hegar's large series, 22% in Herff's, 22% in Schmidt's, 20% in Schultz's, etc.

The indication for this operation exists only in the cases of complete hernia (*procidentia*). Indeed it would be quite impossible in the minor degrees of prolapse to carry out this technic for want of sufficient length of ligaments and of vagina to reach to the external fascia. That is to say, the operation is self-limited to proper cases.

My records show 20 operative cases of pelvic hernia, upon which 24 major operations were performed, 16 according to prevailing methods with 25% recurrences, and eight by the method herein described with no recurrences as yet. There was no mortality by any of the methods.

In conclusion the writer wishes to express his acknowledgement and great appreciation to Dr C. D. Selby for the drawings which accompany this article.

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## The Secondary Effects of Hypertrophy of the Third Tonsil

BY J. M. INGERSOLL, A. M., M. D., CLEVELAND

When we speak of adenoids or hypertrophy of the third tonsil, it brings to the minds of all of us a mental picture of a pathological condition in the nasopharynx, so well known that description of it is hardly necessary.

A few brief historical facts about the men who first studied and described the third tonsil, and devised the methods of examining it and the nasopharynx may be of interest.

Schneider, who died in 1680, showed that the moisture in the nose and throat came from the mucous membrane itself, and he was probably the first man who described the third tonsil, but for nearly 200 years little or no attention was given to it.

Bozinni, in 1807, used a small mirror placed in the mouth to examine the larynx, but little use was made of it, or similar devices of several other men of this period, probably on account of the difficulty in using them, for the mirror was held in some sort of a speculum and the whole device was crude and could scarcely be tolerated in the mouth of the average patient. Manuel Garcia, a London singing teacher, used a dental mirror to study the movements of his own vocal cords. The mirror was illuminated by sunlight and he observed the movements of his cords as they were reflected into a second mirror placed in front of him, and in 1855, just 50 years ago, he published the result of his studies in a paper entitled, "Observations on the Human Voice." In 1857, Tuerck, of Vienna, after reading Garcia's paper, began to study the larynx by means of a small mirror, and Czermak, of Leipzig, advised the use of a large, perforated, concave mirror for reflecting either sunlight or artificial light upon the mirror in the patient's mouth. In 1859, Czermak turned his mirror upward and first demonstrated the nasopharynx.

Schneider's description of the third tonsil was apparently overlooked until 1862, when Luscka redescribed it and the vault of the pharynx very completely, and since then this structure is very frequently spoken of as Luscka's tonsil. Wilhelm Meyer reported his observation of this lymphoid hypertrophy in the nasopharynx in 1868, and said, "The most prominent structural character of these growths, as well as that of the mucous lining of the nasopharyngeal cavity, being adenoid. I propose to designate the former *adenoid vegetations*." A little later he published, in London, his paper, "On Adenoid Vegetations in the Nasopharyngeal Cavity." Meyer's description of his observations of the immediate and remote pathological effects of these growths in the nasopharynx and the principles of radical treatment which he advocated are recognized today as classical. This paper was one of the most comprehensive medical articles ever written, and yet it was received by the Medico-Chirurgical Society of London, before whom it was read, with considerable scepticism.

It is rather interesting to notice that the general recognition of the pathological effects of adenoids and the methods of examination and treatment of this condition, as well as nearly all of the science of rhinology and laryngology, are all things of comparative recent date, almost within the memory of all of us. This should stimulate those who are working in this specialty to more careful research work, for the field is still a new one and there are many problems waiting for some worker to solve them and

thus add much to our knowledge and more to the benefit of humanity.

In order to understand rightly the effects of adenoids, it is necessary to know something about the physiology of the nose and respiration and the function of the Eustachian tubes.

The nose is primarily an organ of respiration, in man, and its olfactory function is entirely secondary. As an organ of respiration it is exceedingly well constructed for its work. The entrances to the nasal fossae are lined with small hairs, which catch the larger particles of dust in the inspired air. The mucous membrane lining the inferior part of the nose is covered by small hair-like processes (the ciliated epithelium), which are continually waving toward the front, so that the smaller particles of dirt and the micro-organisms which escape the hairs in the vestibule of the nose are caught on the moist mucous membrane and brought forward by the cilia and are then expelled by blowing, sneezing or washing the nose.

The irregular shape of the turbinal bodies provides a large expanse of mucous membrane in a comparatively small space and prevents the air from rushing rapidly through the nose as it would do through a straight, smooth tube. The blood supply of the nasal mucous membrane is remarkably abundant, proportionately greater than in almost any other part of the body, and the inspired air, as it passes over this very vascular membrane, is brought to the body temperature and saturated with the moisture given off by the numerous glands. The amount of moisture secreted by the nasal mucous membrane and absorbed by the air, as it passes through the nose, is about a pint per day. Briefly, then, the inspired air is cleaned, warmed and moistened and except for the interchange of gases in the lungs, it has no effect upon the mucous membrane lining the respiratory tract.

An acute sense of smell is dependent upon healthy olfactory nerves and a free passage of air through the nose. The individuality of the voice is characterized by its nasal resonance.

All three of these important physiological functions are interfered with by adenoids. The individuality of the voice is lost, the sense of smell is decreased, and, most important of all, nasal respiration is obstructed. The inspired air, usually colder than the body temperature, lacking moisture and laden with dust and infectious material, passes rapidly through the mouth and throat into the lungs. The mouth and larynx and trachea become dry and chronically inflamed; the bronchi and lungs are irritated and the whole respiratory system is debilitated and is more open to

attack. The air drawn into the lung is not properly prepared for use there and the blood is poorly oxygenated and the general health suffers.

The adenoid tissue itself is inflamed and presents a surface particularly liable to become infected and pours out a thick, mucopurulent secretion which increases the irritation lower down.

The Eustachian tubes connect the tympanic cavities with the nasopharynx. Normally any excess of secretion in the tympanic cavities drains into the nasopharynx through the tubes, and enough air from the nasopharynx passes through them to equalize the atmospheric pressure on the external surface of the tympanic membranes so that the drum membranes are practically suspended in the air and vibrate freely.

If the openings of the Eustachian tubes in the nasopharynx are obstructed by adenoids the air cannot pass into the tympanic cavities and the external atmospheric pressure pushes the drum membranes inward. To withstand this increased pressure the drum membranes thicken and the articulations of the ossicles become stiff, so that the membranes do not vibrate freely and the sense of hearing is interfered with or destroyed. Practically the same condition may be produced by small masses of adenoid tissue around the Eustachian orifices. The masses, although they are not large enough to cause obstruction at the orifices, produce irritation enough to close the tubes by inflammatory swelling.

Such conditions decrease the normal resistance of the mucous membrane of the middle ear and frequent attacks of acute otitis media develop or the ears become chronically inflamed. The adenoid tissue furnishes a continual source of infection and chronic suppurative otitis media is often secondary to this condition and will persist until the source of infection is removed. It is a lamentable fact that many cases of deafness are due to neglect or improper treatment of adenoids.

The third tonsil itself, when it is hypertrophied, offers a favorable field for an infection of any sort which may be brought in contact with it. The normal resistance of the mucous membrane is lost, the glands and the surrounding tissues are inflamed and the seeds of infection fall into good ground and immediately take root and grow.

Summarizing briefly, we find that hypertrophy of the third tonsil causes nasal obstruction and thus interferes with one of the most important physiological functions, free nasal respiration, and produces an inflammatory condition along the whole respiratory tract. The acuteness of the sense of smell is decreased. The

character of the voice is lost. Deafness with or without suppurative otitis media is common. The general health suffers and the little patients are frequently weaklings mentally, as well as physically.

The diagnosis of adenoids, or hypertrophy of the third tonsil, is not difficult. The symptoms are usually so marked that frequently from them alone the diagnosis may be made. The stupid expression of the face, due to the open mouth and thick lips, the pinched nose and the inability of the patient to blow the nose, the lack of nasal resonance in the voice and the more or less constant deafness all suggest the probability of adenoids. The history of snoring at night, restlessness and frequent attacks of cold in the head add to the certainty of the diagnosis. Various reflex neuroses may be present. The most common of these are coughing, hawking, twitching of the muscles during sleep, and nocturnal enuresis. Occasionally one sees a case of chorea or of stammering due to adenoids. Hypertrophy of the faucial tonsils is often associated with adenoids, so that enlarged tonsils should always suggest the possibility of adenoids. Granular pharyngitis in children is almost a pathognomonic symptom.

A satisfactory examination of the nasopharynx with a small mirror may usually be obtained, even in young children, by exercising patience and reasonable skill, but if such an examination is impossible, the nasopharynx should be carefully examined with the index finger.

If the adenoid growths are of sufficient size to produce many of the symptoms mentioned, little or no benefit can be derived from internal medication or local applications and the only rational treatment is the complete removal of the adenoids. This cannot be done by the so-called "fingernail method"—scratching around in the nasopharynx with the finger—and this method is mentioned only to be condemned.

The choice of instruments for the operation is largely a matter of individual preference but most operators use forceps for the removal of the larger masses of adenoids and a Gottstein or some similar currette for the remnants and the smaller masses around the Eustachian tubes.

The anesthetic to be used is also largely a matter of personal choice. There is usually less hemorrhage and less irritation in the bronchi and lungs following the use of chloroform than of ether. Nitrous oxide gas is used considerably by some men, but the time of anesthesia is so short that it is almost impossible to be sure that the operation has been thorough and recurrences are

more liable to occur if the operation has not been complete. Even after the most thorough removal, adenoids do sometimes recur and in such cases a second operation will be necessary.

The results of the operation are so evident and so beneficial that it is not necessary to urge the necessity of it.

The habit of mouth breathing may be so firmly established that it may persist after the operation, and the child will need to be told frequently during the day to breathe through its nose and while asleep the mouth may be kept closed by tying a handkerchief around the head and under the chin.

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## Report of a Case of Pyrexia from Mechanical Intestinal Irritation in a Child

BY GEO. SEELEY SMITH, A. M., M. D., CLEVELAND,  
Associate Prof. Med., Cleveland College Physicians and Surgeons

At 6 p. m., on April 15, 1904, J. S., a strong, active boy of two and a half years, was suddenly, and without warning, overcome with extreme prostration and drowsiness. His face became flushed, and the skin was hot and dry to the touch. Physical examination revealed nothing further than a rapid pulse of high tension, and a rectal temperature of 102°. There was no distension of the abdomen, nor was there any apparent tenderness on palpation.

The condition could not be accounted for except on the supposition of its being the onset of one of the acute infectious diseases, or possibly a dietetic disturbance.

A warm tub-bath and a generous dose of castor oil was administered, the latter, however, without results. All nourishment, with the exception of water, was persistently refused. At 9 p. m., three hours after the appearance of the initial symptoms, the temperature had mounted to 103°. The night was passed in a restless sleep, without evidence of pain or other disturbance, and at 7 a. m., of the following day, the temperature had risen to 104.5°. The pulse was strong and rapid and prostration most pronounced. There was no evidence of pain or tenderness anywhere and the abdomen was well relaxed. Tympanites was moderately pronounced over the epigastrium.

Calomel in 1/10 grain doses was administered every half hour for 10 doses, but failed to produce an evacuation. Thirst was excessive, and water was frequently given in small quantities. All other nourishment was refused.

At three in the afternoon, without previous warning, the child had a severe and prolonged vomiting spell, lasting at intervals

for fully five minutes. The vomitus at first consisted of watery mucus and later became bilious in character.

The amount regurgitated was a matter of speculation, as much was lost. However, nearly six ounces was collected, and it was estimated that fully twice that amount was thrown off.

The patient now became a little brighter, but the prostration was still marked, and at 5 p. m., as the bowels had not yet acted, the colon was flushed with a normal saline solution. After the introduction of about one quart, a wad of cotton, the size of an almond, was passed, and was quickly followed by others of the same size, until twenty had come away, the last not appearing until three quarts of the solution had been injected.

After this a small quantity of fecal matter was discharged.

Shortly before the attack of vomiting the thermometer had reached 105°. Two hours after the irrigation it fell to 104°.

On the following morning, April 17, the temperature was 102° and the tympanites had disappeared. Prostration was still pronounced, and the child continued to refuse nourishment. In the middle of the afternoon recovery was as rapid as the onset had been 46 hours previous, and 22 hours after the removal of the exciting cause the temperature and pulse were normal, food was craved, and energy and strength were rapidly established.

Early in the morning of the attack's onset, a hole was discovered in the boy's quilt from which quite a quantity of cotton had been extracted. Without question the material had been swallowed at this time. He had a customary stool that morning, partook of his usual nourishment throughout the day, and appeared in no way indisposed until the sudden appearance of prostration at six in the evening.

There is little question that the symptoms in this case may be accounted for by reflex disturbances brought about through mechanical irritation. This also may have been the exciting cause of the reflex peristalsis and the consequent regurgitation of the large amount of bilious vomitus. Again, it appears possible that the jejunum, somewhere in its upper position, may have suffered a temporary and partial obstruction on the afternoon on which the vomiting occurred, not sufficient in degree to produce the classical pain of obstruction, but serious enough to interfere with the delicate nervous mechanism of the infant's intestinal tract.

The case is chiefly instructive in demonstrating the severe nervous disturbance that may result from a purely mechanical irritation of the bowel by material having greater adhesive properties than is possessed by the articles more commonly swallowed by children, such as coins, buttons, etc.

## Rash of Adults Simulating Exanthemata, due to Disturbance of the Digestive Tract

BY NATHAN ROSEWATER, Ph. G., M. D., CLEVELAND

During our epidemic of smallpox, in 1902, on February 7 I saw Mrs C., aged 27, who was complaining of distressing stomach symptoms. On examination, I found a splashing stomach, dilated and displaced, which a year previous had improved under treatment, but now was as before. She insisted, this time, upon undertaking any treatment, however severe, to cure the condition.

I advised high rectal feeding. She acquiesced, asking me to send a nurse as soon as convenient. She complained of headache, was very nervous, tongue coated, temperature normal, so I prescribed citrate of magnesia to correct the condition and to prepare her for rectal feeding. It operated freely and, about noon of the 10th, I called and inserted the rectal tube carefully myself the first time, so that all details would be similarly carried out by the nurse; temperature to be taken, as mere routine, twice a day. About 7 p. m. that evening the nurse telephoned that the patient was suffering from considerable pain in the back, especially low down, and extending down the hips, also from headache; temperature 101. I asked the nurse to report in an hour, which she did; pain was getting quite severe, temperature 102 F. I had not taken her temperature that day, for I regarded her nervousness as due to installation of the treatment. I called at once to see her, but found nothing about the spine, in the pelvis or elsewhere to account for this sudden onset. I stated my inability to account for this condition unless it be a rheumatic attack, and, fearing a possible spinal trouble with serious consequences, I asked for counsel. Dr H. was called at once and he, too, expressed his inability to account for the new condition. Privately, he advised me to abandon the rectal feeding as the possible mischief maker. I had often used rectal feeding before and never myself saw or heard of such a result from its use. I did not heed the advice of Dr H., fearing if I did so and she got well, which most likely she would, the blame, right or wrong, would certainly be on the feeding. The next morning, on the 11th, the patient was better, temperature 99½, pain subsiding, and by evening the nurse telephoned that the temperature was normal. Rectal feeding was being continued, only water allowed by mouth.

Early in the morning of the 12th the nurse telephoned me to come as soon as possible, something new had developed. The thought of variola flashed into my mind, and recalling that the patient had told me of daily visits to a friend at Lakeside Hospital, and that she called at the children's ward where they had chickenpox; all this strengthened my suspicions. What else but variola rash, after fever, headache, backache, and pain shooting down the limbs, to follow promptly after the temperature drops to normal at the end of the third day?

Poor Mrs C., young, handsome, perfect in skin and features, lay there disfigured, her whole face like a polka-dot pattern, and, as I soon saw, covered from head to foot with a typical elevated, deep red, papular eruption. Bursting into tears on seeing me, "I know what is the matter with me now, Doctor, you can't fool me," she cried, "I'll have to go to the pest house." The rash was evenly distributed over the body, and quite thickly over the entire face, but, on palpation, nowhere could I find that hard shotty feeling described in variola. No vesicles anywhere as yet. If anything, although elevated, the feeling was velvety.

The evening before, a few pimples appeared on her forehead, by midnight her face was covered, but it was not on her hands and body till morning. Of course it was too early, for variola is progressive. Having seen only a few cases of variola, *all atypical*, I stated that I did not feel warranted thus early to make a diagnosis. I suggested that we have the opinion of Dr H. again.

He was soon on the spot. His first impression, whispered to me, was of variola, but, after carefully examining the rash and its facial distribution, he gladdened all hearts by giving his opinion that it was a case of measles. I, too, began to breathe easy, until I was taken by surprise by his *real* mental attitude, which was revealed by his saying to the patient, "We will know for sure by the appearance of the rash tomorrow." This brought up the question of the management of the various problems connected with this case, in this high-toned boarding house, of about 30 people, during the next 24 hours.

The situation was explained to the housekeeper in order that everything needed for the patient could be set down in the hall, and nothing be brought back until the next day.

Our duty to all concerned was done, treatment not changed. By evening, when I called, the papules seemed flattened, redness less marked, no rise in temperature, no vesicles, and no other symptoms, and by the next morning the entire eruption had vanished, her skin was clear and white and the country was saved!

Of course this case was not variola, in spite of an apparent possibility of exposure, of premonitory symptoms, sudden onset, of headache, severe backache, fever, extreme pain shooting down the limbs, followed by a drop to normal when the typical rash broke out, a rash that set one of our best diagnosticians to hedging. Evidently the diagnosis of variola *is not complete* until you have an umbilicated pustulo-vesicular eruption, with a shotty feeling, following the prodroma. Somerset<sup>1</sup> lays stress on stretching the skin to distinguish the pseudo-papular measles eruption from the true papules of variola, and the macules of secondary syphilis, by their indistinctness of outline. This was not a case of measles in an adult, although the distribution of the rash on the face made Dr H. favor this view as against variola, for there was an entire absence of photophobia, lacrymation, conjunctivitis, coryza, cough or bronchial irritation and also continued *absence* of fever both *when* the eruption occurred, and *afterward*; it was not due to the rectal feeding, for this was kept up long after the rash was gone. I believe we were here dealing with an erythema. The suggestion of Drs Rosenwasser and Friedrich that it was a case of erythema morbilliforme is sufficiently descriptive as to name. It was likely due to absorption of some irritant from the gastro-intestinal tract, which in the beginning was manifest by furred tongue, splashing stomach,—indicating stagnation, with attendant decomposition, which the citrate of magnesia did *not completely eliminate*. A dose of 10 grains of sodium bromid was given on the 8th, but as she had occasionally taken this drug before without any effect, a bromid eruption is out of the question, nor can it account for the pain and fever. The stomach being kept empty of food and plenty of water being given, the upper digestive tract was likely perfectly clean early, and free from irritation. The lower bowel was daily being flushed before the morning feeding, so that irritating or toxic conditions could not last long if confined to the digestive tract. That there was no vomiting or diarrhea was probably due to the cathartic effect of magnesia. She had had lithemic attacks before. After considerable loss in weight she had, on a previous occasion, gained rapidly on a diet for lithemia, a lacto-vegetable diet. That the skin is often the seat of disturbance, as are also the lumbo-sacral nerves, in lithemia, while headache and fever also occur, points to that as a most probable cause of the gastro-intestinal upset with headache, backache, fever and eruption.

On the evening of May 19th, of this year, I was called to see

(1) New York Medical Journal, Nov. 21, 1903, page 990.

Mrs H. T., aged 35 years, who sent for me on account of a papular eruption over her entire face, which was accompanied by a constant nausea and vomiting. Tongue covered with a thick yellowish fur, which had been on from the first day of illness. She had been eating, for some time back, freely of strawberries, also had chicken sandwiches and eggs and had been drinking much coffee. She began, eight days before, to have a feeling of lassitude. Next day she had headache, lassitude continued, for which she consulted Dr P., who prescribed caffein, quinin and phenacetin. The bowels moved daily, and she felt relieved. Friday, lassitude continued, but headache did not. Saturday she did not feel well, stomach and bowels ached, took a seidlitz powder, bowels moved and she felt better in the afternoon; she went down town, but felt dull and heavy, so at 7:30 p. m. went to bed after taking a cascara pill.<sup>2</sup> She awoke Sunday morning with a rash, on her forehead first, entire face next, then on her neck, but nowhere else. Dr P. was in doubt as to measles or smallpox. Bowels moved freely all day. Monday morning the rash was on her face, neck and hands, but not on her body. A consultation with a celebrated dermatologist, Dr C., was held who diagnosed it as a case of measles. It was promptly reported to the City Health Department and one of their experts, Dr C., was sent to see the patient, because, close by, was a case of smallpox, and because measles in adults is always best to be closely scrutinized. We had, too, an epidemic of measles here at this time. The city expert concurred in the diagnosis of measles, Tuesday noon; rash also out on her body, when he saw her. No bowel movement Monday or Tuesday, vomiting began Tuesday afternoon, no medicine or food being retained; Wednesday night took a seidlitz powder, which she retained.

Thursday morning her temperature was 104°. Thursday evening, when I first called, she was very restless and nervous from anxiety and lack of sleep. The rash was universal, but not especially crescentic as in measles. No embarrassment of respiration or bronchial catarrh, no cough, no coryza, photophobia, conjunctivitis or lacrymation. The only coughing she reported was what was due to irritation from the postnasal mucus, which, in dropping, irritated, but resulted in continued relief after being coughed up. I found the stool was very offensive. Temperature 102½. I prescribed almost neutral citrate of magnesia in small repeated doses, and stayed till one-half a bottle had been retained. Then I gave Veronal for sleep. Friday morning, temperature was

(2) Composed of cascara, aloin and podophyllin.

99½, she passed a comfortable night, bowels freely moving next day. Rash was much less pronounced and by evening she reported the fever gone and rash disappeared completely. Saturday morning, temperature stayed normal, patient discharged. Patient was up and about in the afternoon.

This case is one in which there is good ground for a difference of opinion and perhaps a justification for this wide difference here, because the case was diagnosed at different stages.

The prodromal langour and headache is that of any fever but she had not the prodroma distinctive of measles. On the fourth day of the first malaise, a rash on her face was diagnosed by a thoroughly careful physician as measles. On the fifth day it had extended to the neck and face, and, in consultation, a dermatologist, of undisputed authority, after weighing between smallpox, measles, etc., concurs in the diagnosis of measles. On the fourth day of eruption another expert in exanthemata also concurs in the diagnosis of measles. On the fifth day of eruption, it takes a great deal of temerity to offer a new diagnosis after three excellent observers have agreed.

Nevertheless, with my previous experience in Mrs C.'s case, I trust I have not strayed altogether too far from the teachings of good masters, and have not assumed a knowledge new and untried, in daring to offer a different solution to this problem by claiming that this patient had an erythema morbilloforme, but *not* measles.

Here, as in Mrs. C.'s case, the specifically prodromal and concurrent symptoms of measles were practically absent and should have weighed against a positive diagnosis of measles, especially in an adult. The early presence of the thickly furred tongue, the history of improvement each time after attention to the bowels, the onset of vomiting, and offensive stool, all showed that the bowels had not been effectually evacuated, and thus made it impossible to make a diagnosis of measles without having first emptied the bowels thoroughly. If, after that, the condition remained, such a diagnosis, in the absence of finding the elusive germ, would have the merit of *one by exclusion*. Later the vomiting and fetid stools gave their incriminating testimony in favor of a gastro-intestinal origin to the eruption.

The cessation of vomiting, fever and prompt disappearance of the rash after the cathartic, while corroborating the gastro-intestinal view point, will seem debatable ground because it was at the stage of normal decline of measles, but the marked contrast from the immediately preceding condition of extreme distress to

the prompt and complete recovery seems to me too great—*the gastritis of measles is not so prompt to yield to a cathartic.*

Lately I saw a man who had been treated for five or six weeks previously by an advertising quack for specific urethritis without benefit. I found also a prostatitis, both yielding to treatment, no history of chancre nor evidence present. Two weeks after, and while taking no medicine, he came to see me very much alarmed, with a pale papulo-macular rash general over his body, not on his face and hands. Not having seen him early made me slightly suspicious of syphilis, but a cathartic cleared the skin the next day and also the diagnosis.

To summarize: First, all the premonitory symptoms of smallpox, such as headache, extreme backache, and pain shooting down the limbs, fever, subsidence of fever on the third day, followed by a papulo-macular eruption similar in appearance and distribution to beginning variola, cannot thus early be diagnosed as such, even if suspicious of exposure, until the characteristic umbilicated vesiculo-pustular eruption is present. Second, the characteristic rash, prodromal stage of malaise and fever, of measles, without the eye, nose, throat and bronchial mucous membranes being involved, does not justify a diagnosis of measles, especially until the gastro-intestinal tract has been *thoroughly cleaned out, if in doubt.* Third, there is an important point for both diagnosis and treatment in these cases which I wish to emphasize; in measles, smallpox, or other self-limited infection, expectant treatment may seem justifiable, but in gastro-intestinal retention *not so at all.* Here active treatment hastens the cure and a positive diagnosis in a noninfectious disease avoids quarantine and all that infection implies. Therefore, my suggestion to clean out the alimentary tract, which is an ancient and harmless procedure in all exanthemata, if only of indirect benefit in the latter, still may clear up a doubtful diagnosis, and promptly relieve suffering and anxiety.

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Dr H. G. Sherman, of this city, kindly reports to me a similar case which he saw only a few days after he heard me read this paper. A girl of 16 years, on whom a diagnosis of measles was made, was forthwith isolated in one of our hospitals where the doctor had originally sent her to undergo treatment for her eyes. The absence of prodromal and concurrent symptoms in spite of the typical rash led Dr Sherman to favor a diagnosis of gastro-intestinal rash, which, after a bottle of citrate of magnesia, completely disappeared in three to four hours.

## American Medical Association

PORTLAND, ORE., JULY 11-14, 1905

In order that the trip to the meeting of the American Medical Association at Portland, Oregon, this year, may be enjoyed by the largest possible number of physicians and surgeons, and particularly by those whose professional duties make it necessary that the journey be performed in an expeditious manner, a special Overland Limited train has been arranged for, and a special party is being organized to leave Chicago via the Chicago, Union Pacific and North-Western Line the evening of July 6, to make the trip to Portland surrounded by every luxury that modern travel can provide, upon schedules occupying a little less than seventy hours enroute.

It is not often that so congenial a party as this is available, traveling under such highly favorable surroundings for comfort and enjoyment of the trip. A description of the train and route is included in the attached circular, and you are most cordially invited to become a member of the party. Arrangements have been made with the railways for the movement of this special Overland Limited train without any extra charge for the unusual service thus secured.

The round-trip rate Chicago to Portland and return is \$56.50 and proportionately low rates from other points will be in effect. Ask your ticket agent for your tickets via the Chicago & North-Western and Union Pacific lines. Return trip may be made via Oregon Short Line, Salt Lake City, and through Colorado without extra charge, or via the Northern Pacific, Great Northern or Canadian Pacific without extra charge, or via San Francisco and Los Angeles on the payment of \$11.00 additional at time of purchase. Sleeping car rate, Chicago to Portland for double berth in special train, \$14.00. Drawing room, \$53.00. Stop-overs will be permitted at and west of Colorado common points, Cheyenne or Trinidad, inclusive, or St. Paul and Minneapolis and a tour of the Yellowstone Park may be made either via Monida or Livingston at a rate of \$49.50 additional, covering the usual tour through the Park, including stage transportation and hotel accommodations.

Will you please, upon receipt, advise Mr. H. A. Gross, General Agent, Passenger Department Chicago & North-Western Railway, 212 Clark St., Chicago, Ill., or the nearest representative whose name and address appears on the accompanying circular, whether you desire to be included in the party, and how much sleeping car space you desire reserved. Further information in regard to the trip will be cheerfully furnished on application.

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# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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## EDITORIAL

### The Occurrence of Spirochaeta Pallida, Schaudinn, in Syphilis

The immense amount of work which has been done in the effort to find the true etiologic factor of syphilis, and the apparent hopelessness of the many delusive researches, lends an immense interest to any new contribution in this line. Within the last few weeks a number of papers have appeared, in German and French literature, concerning the spirochaetae which Schaudinn and Hoffman have described as occurring in recent syphilitic lesions. In the *Medical News* for June 17, 1905, Simon Flexner and Hideyo Noguchi contribute a special article on the occurrence of these organisms in recent syphilitic lesions.

Hoffman and Schaudinn's first publication dealt with the study of fresh specimens obtained from the surface and interior of the primary lesions, and the interior of the lymph glands and condylomata, and stained specimens from the same sources. Control examinations were made from nonsyphilitic lesions of the genitals and of mixed lesions of these parts, the results being

quite uniform and suggestive. In the cases of simple syphilitic infection, these observers found a number of spiral micro-organisms for which they proposed the name given above, and in the non-specific lesions they found a second spiral micro-organism for which they proposed the name of *spirochaeta refringens*. The description of these organisms is given as follows in the special article from which we quote: "In length the spirochaeta varies from 4 to 10  $\mu$ , the average being 7  $\mu$ . In width their variation is from an inconceivable thinness to  $\frac{1}{2} \mu$ . The number of bends vary from 3 to 12. The organism agrees in motility with the spirochaeta rather than with the spirilla; there being three characteristic movements: rotation on the long axis, forward and backward motion and bending of the entire body. There are indications of an undulating membrane, but none of flagella, the poles ending in sharp points. In order to study the fresh material, the expressed juices of the primary lesions, or the fluid drawn by aspiration from the lymph glands, may be diluted with salt solution." According to Schaudinn and Hoffman, prepared in this way the spirochaetae were still actively motile after six hours.

Drs Flexner and Noguchi report in this article a study of four cases of recent syphilis and two cases of non-specific infection. In each of the four cases of syphilis, these observers found the spirochaetae present in the fresh specimen, and in three of them they were demonstrated in the stained specimens as well, though in one instance, case four, they were missed in the stained preparation; an occurrence for which these observers offer no explanation at the present time. The two cases of non-specific lesions, studied, showed no spirochaetae.

Flexner and Noguchi express no opinion as to the significance of these organisms in the syphilitic lesions, and Schaudinn and Hoffman have expressed themselves guardedly regarding their significance, these latter observers having pointed out their presence in the typical lesions of the disease and their absence in other forms of venereal infection which they have studied. Apparently confirmatory contributions have come from Metchnikoff and Roux, who have discovered the same organism in the lesions of acquired syphilis in men and in experimental syphilis in the monkey and ape.

This study, it is true, concerns only the occurrence of these organisms in the primary acquired lesions and it is yet too early to be able to draw any accurate conclusions as to their etiologic significance, but these observers, confirming the work of the for-

eign investigators, open up a new field for investigation and must stimulate a very general study of the fluids and secretions obtained from suspicious lesions of recent origin. If further investigations should fail to establish any etiologic relationship between the infection as seen in man and the presence of these organisms, the value of this discovery is none-the-less one of great interest, and inasmuch as these organisms are apparently absent in the non-specific lesion, the demonstration of their presence, apparently not a difficult matter in the fresh specimens, is a matter of great value in doubtful cases in establishing a true diagnosis.

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### Lay Publications as a Factor in the Dissemination of Medical Knowledge

In this age of ten-cent magazines and the omnipresent reformer, there seem to be no lack of subjects upon which the enthusiast may write his "penny-a-line," or write with the purpose of really accomplishing a measure of good. It has often appeared as if the field of medical literature, which lies in the border line between the technical and the lay mind, was inexhaustible. A number of periodicals have already established for themselves an enviable position in their manner of dealing with urgent public matters of hygiene, sanitation and therapeutics. To the *Ladies' Home Journal*, perhaps more than to any other periodical, lay or medical, belongs the credit of having instituted a campaign against the widespread and indiscriminate use of patent medicines, a campaign which, having been inaugurated, has been firmly sustained by the able editor of this journal, Mr Edward Bok. Among a number of other equally well-known lay monthlies, *McClure's Magazine* has long filled a place second to none in its efforts to arouse public interest in matters of vital importance to the public health. Only last month we had occasion to call attention to a recent article in this magazine upon the subject of the water-supply of the various cities of the country. The recent article upon tuberculosis appearing in the same journal is vividly recalled, and it cannot be gainsaid that this journal has done much to arouse and stimulate public interest along these lines.

A number of equally important monthly periodicals are constantly picking out some important subject bearing upon these vital questions and hammering away in a manner that must be productive of much good. The tendency, fortunately limited to a small class of journals, to ridicule the efforts of the profession in their endeavors to accomplish something for the

good of mankind, must, we feel sure, carry less and less weight in the face of the efforts of those editors who are constantly treating these important questions with the sobriety and sanity which they deserve.

The last recruit among the already large number of sound journals aiding and abetting the good cause, comes in the guise of one of our best known weeklies published in New York City. In this age of the germ theory, when scoffers are still about on every hand, it is reassuring and comforting to find an editor bold enough to write as has the editor of *Collier's Weekly* anent the house-fly. We abstract the following from a recent number of that journal:

"Now that the house-fly is making his appearance, and is likely to remain some months, it becomes our duty to observe some things to his discredit. He is a dirty beast, and danger lurks in him. Once before we wrote of him, at that time frivolously. But who can deny that he sits upon a barrel of swill, until fancy takes him to try a sugar-bowl or baby's nose? The germ theory sometimes seems elaborate, in these days, when some are found to prophesy even against the toothbrush, and against the postman's bag. Still, it remains possible to become scientific without going crazy. In attacking the fly we are safely moderate. He causes more disease in a week than aniline dyes in a month. He is more dangerous than formaldehyd in milk. The above are medical opinions which we eagerly accept. Charity covers a multitude of sins. It does not cover flies. These ranging and obscene animals should die. The only difficulty lies in killing them. Screens on kitchen doors and careful cooks may do more for health than medicine or a quiet conscience. We are not lost to all sentiments of mercy. Like the poet, we can pour regretful tenderness over the translucent small wings crushed accidentally in a book, 'pure relics of the blameless life.' From the fly's point of view he makes the most of things. Who would kill even a mosquito for doing his best? But man is devoted to himself, and these disease-bearing denizens of the air are fatal to him and his young offspring."

Literature of this sort scattered broadcast into the homes of the skeptics and "antis" and all the various cults this age has developed, cannot fail to do some good.

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### Recurring Phlebitis of Obscure Origin

In a recent number of the *Johns Hopkins Hospital Bulletin* (June, 1905), Dr John Bradford Briggs calls attention to a variety of phlebitis occurring in the absence of all conditions that are usually recognized as predisposing to inflammation of the veins. Instances of recurring phlebitis of this sort, though quite uncom-

mon, are apparently so similar in the essentials of their symptoms and clinical course, that the writer believes that they should be grouped together and sharply differentiated from other forms of acute venous inflammation. Dr Briggs has gathered together seven cases, four of which he has studied personally, and three taken from literature, which present the unusual occurrence of phlebitis with thrombosis absolutely without any elevation of temperature and without any history of gout, rheumatism or any other dyscrasia which might be considered of etiologic significance.

In three cases the internal saphenous vein was involved, in one the external iliac and coronary veins of the left side, in one the femoral veins of both sides, in one the deep brachial vein and in one the peripheral veins of the right arm were involved. The history of the first of the cases cited is given in detail and is more extraordinary in that the patient with thrombosis of the left internal saphenous vein kept up and about a great part of the time and found that the pain was lessened by walking about and is even said to have played tennis without a consciousness of pain or fatigue. Quoting from the thesis of Daguillon, the writer calls attention to the fact that of 12 cases reviewed by the French author, three died of embolism, and that there were altogether six patients afflicted with embolic symptoms of greater or less severity. In the cases cited by the writer, there was at no time any evidence of embolism, the patients apparently enjoying an extraordinary immunity from this common occurrence in such conditions. A further curious feature of the cases cited, lies in the fact that a number of them suffered from repeated attacks of phlebitis, and this fact in the absence of any etiologic factor, and of any constitutional symptoms at the time of the attack, is even more difficult to explain.

In his conclusions, the writer suggests as a possible cause of this recurring venous thrombosis the occurrence of sclerotic changes in the walls of the veins, calling attention to the analogous anatomical condition of arterio-capillary fibrosis, and believes that it is an anatomical, rather than a chemical abnormality of the constitution that is the cause of these repeated attacks of venous inflammation. Adding in substantiation of this assumption, that all the cases which he has personally examined showed sclerotic changes in the superficial veins of the extremities together with some degree of thickening of the arteries. He further calls attention to the fact that some at least of these cases may walk about with an actively progressing thrombosis, with

apparently a freedom from the danger of embolism that is hard to understand, and he believes that the mortality of 25%, as given by Dagouillon, is unnecessarily high. If it is possible that an individual may be up and about with an active phlebo-thrombosis, it is of course possible that a large number of relatively mild cases occur that do not find their way into medical literature. The author suggests the possibility of cutting down under cocaine over the saphenous opening in cases of involvement of this kind, and ligation of the vein at its termination as a method of procedure limiting the period of confinement and preventing the danger of embolism.

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### The Cleveland Medical Library

We would call the attention of the profession of Cleveland to the circular letter appearing elsewhere in this issue, sent out by the Council of the Medical Library Association. The members of the Cleveland Medical Library Association cannot fail to appreciate the important place which the Library has filled in the professional life of our city during the past 10 years. The building as it now stands is filled to the utmost and will meet no further demands for space. The Library is continually growing so that at the present time it is absolutely imperative that additional stacks should be built for the accommodation of the rapidly accumulating books.

Inasmuch as it has been found necessary to make a considerable addition to the Library building, it has seemed to the Council of the Library Association in every way desirable to erect at the same time an auditorium of sufficient size to accommodate all the meetings of the medical profession. During the past year the meetings of the Academy of Medicine have been held in the auditorium of the Hollenden Hotel, the privileges of the use of this auditorium being courteously extended by the management of the Hotel. We appreciate this courtesy, and we also appreciate the fact that it would be hardly fair to expect this hospitality on the part of the Hotel management to be extended to us indefinitely. As there is no other place available in which the meetings of the Academy can be held, it seems, under the circumstances, absolutely imperative that the Academy should find a desirable auditorium for its use, or that it should avail itself of the courteous offer on the part of the Library Association to use such an auditorium as the Library may erect in connection with its present house. A careful estimate of the expense neces-

sary for the construction of such an auditorium has been made, and this addition will at the present time cost in the neighborhood of \$17,700. It is the hope of the Council of the Library to raise this sum among those interested in the advance of medical education in our city. With this end in view the Council has sent out the circular letter referred to, asking each member of the profession to use his utmost endeavors in assisting to raise the necessary sum for the erection of a suitable building for the joint use of the Library and the Academy. It has been felt by some that the location of the Library building was not favorable to a large attendance at the meetings, but we feel sure that this view is not justified in the light of the record of attendance of the meetings of the various Sections of the Academy which have been held at the Library during the past winter. This project really deserves the hearty coöperation and interest of every member of the Academy of Medicine and we sincerely trust that the efforts of the Library Association will not be in vain.

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### Christian Science and the Toy Pistol

Under the unique title, *A Shot at Christian Science from a Toy Pistol*, A. C. McClanahan (*The New York and Philadelphia Medical Journal*, June 17) has launched an argument against the fallacies of Christian Science based upon the assumption of the unreality of matter, as unusual as it is convincing.

Adopting, for the sake of illustration, the familiar toy pistol, the writer proceeds to demonstrate that its attributes of sound, color and form may be shown, by a simple process of deductive reasoning, to be the result of effects produced upon consciousness. The sound as the result of motion of the air; its color as the result of the waves of an impalpable and invisible ether; its form the mere visual image of a something that is and at the same time is not; for by the application of the law of Mariotte, infinite pressure would completely annihilate the form of the toy pistol and yet nothing would have been destroyed. "Infinite pressure would simply cause the disappearance of matter as we know matter. Everything that has existed would still exist."

This would indeed bring us, in so far as the human intellectual grasp of things seen and heard is concerned, to a *reductio ad absurdum*. But here, and just here, lies the great danger in the teaching of those who preach the unreality of the real, and our author, carrying his argument still further, shows how ridiculous the argument of such a mind appears in the face of its own conclu-

sions. "As we have no other evidence of the existence of matter than the phenomena which it exhibits to consciousness, so we have no other evidence of the existence of mind than the phenomena which *it* exhibits to consciousness, and therefore we have the same reason for denying the existence of mind that we have for denying the existence of matter." Referring apparently to a text-book of Christian Science, the writer truthfully says "that some of the phrases in the text-book of this cult, having no sense or meaning in whatever direction they may be read, have naturally the same meaning when read in either direction and this is regarded as an exceptionally excellent proof of their truth." Having been reduced, as he says, to a state of mental haziness which enables one's mind to float on in the haze of this book, we are taught not to apply physical measures to the relief of our illusory inconveniences and misfortunes. "If there is anything you do not like, whether it be a protracted drought or a broken leg, we are told to call it an illusion, an error, a sin, or some other equally obnoxious or appropriate name. \* \* \* If we burn our hand in hot lard, there was no hot lard there, and therefore we did not burn our hand at all; the pain we feel is a sin and therefore we do not feel it; if our hand, nevertheless, burns off, we never had a hand, and, therefore, we have not lost it, and as it was only an error we are better off without it in any event."

After this ingenious statement of the theory of Christian Science, the author adds, in concluding, that it is hardly necessary to call attention to the fact that the testimony of an idealist is wholly incompetent to establish the utility of idealism. It can, however, be said that the doctrine which teaches men that all the ills the flesh is heir to are purely imaginary and will surely be recovered from, stimulates cheerfulness, courage and hope, and no one can deny that these emotions may exert a beneficial influence on the bodily tissues; but, as our author further says, "Things have not yet come to so bad a pass that one must first become a raving maniac in order to have courage, or to look with hope into the future. \* \* \* This form of madness is to be prevented, for it cannot be cured, and now in sorrow we may leave these dreaming world-destroyers to the working out of their own salvation." The author can not be far wrong in his judgment that it is hardly probable that there is another world whose inhabitants are more prone, than those of our poor planet, to band themselves together for the perpetuation of one or another variety of nonsense.

## Certified Milk

As the season of the year is at hand when a supply of a thoroughly reliable, pure milk is of the greatest importance, it is reassuring to learn of the success which has attended the efforts of the Milk Commission in securing this desired result.

On account of difficulties in the prompt delivery of certified milk through the distributors already announced to the profession and the public, Mr Canfield, the producer, has himself undertaken its distribution. The dealers, however, will still be able to distribute this milk to those of their patrons who desire to receive it from them and in parts of their territory not reached by Mr Canfield's wagons. The Cloverdale Dairy Company will have the exclusive delivery of certified milk on the West Side. This milk has shown an unusually low bacteria count. In a number of tests it has retained its sweetness for a surprisingly long period, thus demonstrating the practical value of the low count obtained and the high chemical and bacterial standard of the milk produced.

No one can question the immense value of such a milk for infants and invalids as well as for table use, and it is to be hoped that the medical profession will lend their continued support in urging the use of certified milk in every case of illness or invalidism, and for general consumption in so far as is possible. We are confident that it will receive sufficient support to warrant its continued production. We publish elsewhere, page 331, the last circular notice sent out by the Milk Commission.

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## Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

**Cerebrospinal Meningitis:** *The Medical News*, for April 29, states that as regards the treatment of cerebrospinal meningitis, little has been accomplished. Diphtheria antitoxin has failed to fulfil its promise, and only symptomatic treatment seems to be of any service. The patient must be kept quiet, and given as much morphin as will lessen the pain, and prevent restlessness. Hot baths have been found excellent in making the patients more quiet, and so lessening the amount of morphin necessary. One bit of special treatment seems promising; at the beginning of the disease, the pus in the brain cavity is fluid. If the patient's head is kept well lifted, then gravity will aid to a notable extent in relieving the pressure upon the brain itself, and thus lessen one of the most serious dangers of the disease. To be of any service, the head must be raised from the very beginning of the disease, as after a few days the pus becomes thicker and will not flow readily. Francis Huber in the same Journal

believes that the use of diphtheria antitoxin is promising but should be resorted to early before anatomical changes, due to the exudate, have taken place. The malignant type is not affected in the least by the method. J. C. Wilson, in the *Journal of the American Medical Association* for April 29 recommends, that the room occupied by the patient should be quiet and darkened. The mildest cases require no treatment; the malignant cases react to none. The diet should consist of milk, eggs, meat juice, and broths at regular intervals. Water freely and the continuous direct application of cold to the head and spine by means of ice-bags is of value. If the temperature be high, systematic cold bathing may be practised. As regards drugs, opium may be regarded as one of the indispensable remedies in the treatment of epidemic meningitis. The indications for its use are to be found in the headache and spinal pains, spasm, restlessness, hyperesthesia and sleeplessness. It should be given early and in full doses. Experience has demonstrated a remarkable tolerance for this drug in this disease. Strong gave in one case 60 drops of laudanum every half hour until half a fluid ounce was taken. Morphin may be administered hypodermically in doses of one-sixth to one-half grain. With great restlessness and jactitation hyoscin hydrobromate is indicated. In children the dose must be cautiously regulated. The *Medical Review of Reviews* reports that in a former epidemic 23 out of 27 cases completely recovered under hot packs in the initial stage with ice cold applications to the head, and aconite and belladonna internally. When evidences of effusion appeared these were dropped, and bromid of potassium in large doses given for several days thereafter. Counterirritation was applied over nearly the entire length of the spinal column and continued at intervals until all evidence of effusion had disappeared. Iodid of potassium in moderate doses was regularly given and general supporting treatment. The writer believes that the point was established that the disease was not *contagious*, and the recent epidemic has not caused him to change his opinion.

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**Digitalis:**

H. O. Hall, in *American Medicine*, for March 25, calls attention to the fact that digitalis even in

moderate doses often causes hallucinations and delirium, symptoms which are mistakenly attributed, if noticed at all, to the disease from which the patient is suffering, when in reality the drug is the cause of the delirium. One case is noted in a hospital patient where the delirium became so pronounced that the patient was about to be committed to the hospital for the insane, but the entire withdrawal of the digitalis relieved the symptoms, and the delirium disappeared. Several other cases are cited, in which its use was followed by mental disturbance and delirium, and he believes that in all cases in which delirium occurs in patients suffering from heart disease, it would be well before deciding the delirium to be due to heart affection (the "delirium of heart disease"), to prove by elimination that it was not the result of medication.—the toxic effect of digitalis or other heart stimulant that is being administered.

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**Pertussis:**

G. Bjorkman, in *Merck's Archives* for May, concludes that very few drugs are of real therapeutic

value in pertussis. He has used for several years the application of a mixture of sodium soziiodolicum and stearate of zinc insufflated repeat-

edly during the day; this has a decided action in shortening the disease itself, and reducing paroxysms from the beginning. His best results internally have been with phenocoll, antifebrin, quinin, antipyrin and belladonna. Of the newer remedies he has found citrophen of the highest value, and recommends its use in cases where the other agents cannot be obtained or if idiosyncrasies exist for quinin. Citrophen may be given to infants in doses of 0.1 ( $1\frac{1}{2}$  grains) three times a day. Children from one to three years 0.15-0.3 ( $2\frac{1}{2}$  grains) three times a day, the doses being increased according to age. He recommends it in solution with water and syrup.

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**Erysipelas:** F. C. Floeckinger, in the *American Therapist* for April, in treating erysipelas paints the border line of the spreading infection with pure tincture of iodin. If there is a spot visible from which the infection starts he cauterizes this place with pure phenol. He orders this done twice a day and internally gives tincture of iron 10 to 20 drops in a little glycerin every two to three hours. Hygienic and symptomatic treatment is extended as occasion presents. As soon as he diagnoses a case he injects 20 c. c. of antistreptococcic serum, and continues this every six to 12 hours, according to the condition of the patient. With this treatment every case can be aborted in from three to four days and sometimes even in two days. If abcess formation takes place, multiple incisions are indicated. The temperature never drops to normal at once, but gradually. He believes this to be, without doubt, one of the best methods for the treatment of facial erysipelas, and states that one trial will prove the assertion.

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**Typhoid Fever:** William Hanna Thompson, in the *Medical News* for March 25, states that about the middle of the second week of typhoid fever, the symptoms often indicate in which of the three directions the chief danger of the patient lies. The first of these is death due mainly to continued hyperpyrexia. The temperature tends to reach a high grade in the mornings as well as at night, and is not affected unless it be to be increased by the cold bath given for 15 or 20 minutes. It is in these cases that the patient should be dealt with just as we use the ice bath in sunstroke, or in the hyperpyrexia of acute rheumatic fever. He has kept such typhoid patients in an ice bath from 33 to 48 minutes with full recovery in each case, and finds that unlike the hyperpyrexia of rheumatism, when the fever is once broken, its subsequent rises are as easily controlled as in ordinary cases. The second tendency is an early development of tympanites, with or without diarrhea, with pronounced tremor of the tongue, as well as dryness and an anxious expression on the face. These patients should have only about one-half the average amount of milk given to them, and in smaller quantities at a time. Five grains of resorcin in an ounce of sweetened water with 20 to 40 grains of the subcarbonate of bismuth, and in some cases adding five grains of sulphocarbonate of soda to each dose. These patients should abstain longer than others from taking solid food on the subsidence of the fever. The third class are those of severe toxemia, and of general prostration from the beginning. The temperature shows a comparatively low average, but the chief features are those of weakness of all the

functions. Deaths occur from pure asthenia. He would give such patients 20 drops of tincture of chlorid of iron four times in 24 hours, with three grains of quinin each time, and one-sixth of a grain of calcium sulphid, while the cardiac stimulant camphor should be used hypodermically; camphor he gives subcutaneously in seven and one-half grain doses dissolved in 20 minims of sterilized almond or olive oil.

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**Pneumonia:**

J. B. Todd, in the *New York and Philadelphia Medical Journal* for May 20, asserts the

therapeutic value of alkaline beverages in pneumonia when employed from the inception of the disease. He has treated all cases of pneumonia for the past two years with salines; at first per rectum, and later by the stomach. He gives during the entire course of the disease a solution of two and one-half grains of sodium chlorid and one grain of potassium bicarbonate to the ounce of cold water, and gives from six to eight ounces every two hours. The addition of a teaspoonful of lemon juice converts it into a refreshing effervescent drink which is gratefully accepted by the patients.

Besides this drink the patient should be allowed all the pure water desired. When this treatment is maintained the urine amounts to from 40 to 80 ounces in 24 hours, light-colored and has an abundance of chlorid. Such conditions as arise are treated symptomatically.

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**Nux Vomica:**

In the *Medical News* for May 27, John H. Musser states that when there is an excess of acid in the

stomach, sedatives are usually employed. He has found, however, that an overabundance of acid in the stomach has not yielded to this treatment, but that nux vomica produces an excellent effect. Most of these cases occur in neurotic individuals, and he gives the remedy in ascending doses, beginning with 15 drops three times a day up to the physiological limit. The young stand large doses better than the old, the susceptibility to its action seeming almost in direct ratio with the years. As a rule intolerance is shown by some stiffness of the neck muscles and a tendency to vertigo. As a rule patients are not given more than 60 drops three times a day, and he believes the same effects are not obtained with strychnin alone as with nux vomica, there seeming to be some important elements in the natural remedy which are not in the alkaloid.

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**Heart Remedies:**

Finley Ellingwood, in the *Therapeutic Gazette* for April, compares a number of heart remedies, and believes cactus grandiflones to be a better general heart remedy than digitalis. It is a remedy for enfeeblement of the heart's action which is due to defective nutrition of the heart. When there is extreme irregularity, or exaggeration of the heart's action or tumultuous heart action from extreme weakness, this agent is directly indicated, but when the tumultuous action occurs from a temporary exaltation of nerve force, or from temporarily increased vital action, the influence of cactus will exaggerate the condition, and in such cases should be avoided. Cactus

is a sedative to the action of the heart, and will reduce the temperature in those cases in which there is a high temperature, and great depression of the vital forces, general enfeeblement and threatened collapse; on the other hand, there are many cases of subnormal temperature which this remedy will elevate to normal more quickly than strychnin. These apparently opposite influences depend upon that influence of cactus which is exercised toward a restoration of the normal functional activity of the heart. Crataegus is of value in old standing chronic cases, with much valvular inefficiency, and especially where there is a tendency to atherosomatous degeneration. It should be given in four or five minim doses, repeated as many times each day. In those cases of apparent heart trouble which occur rather suddenly in young people of nervous temperament, who are highly excitable and easily overwrought, and there seems to be threatened nervous prostration, he has found this remedy of immediate service and of permanent benefit. Apocynum cannabinum has not until recently been classed as a heart remedy. It is the remedy when, from heart disorder with great enfeeblement, dropsy is threatened. Especially is this true if dropsy depends upon compensatory failure, when the pulse is slow, or rapid and feeble, and where there is a general fulness of the tissues. When, with feebleness of the heart's action, there is hydropericardium or dropsical effusion, apocynum is indicated. The bromid of strontium is not directly a heart remedy but there are many cases of irritable heart in which the irritation is increased by any remedy that irritates the stomach, or by the fact that a general irritability of the stomach is present. In these cases this remedy will be found of great value. It may be given in conjunction with cactus, or with hydrastis canadensis, and in some cases with bismuth. It may be given in from eight to 15 grain doses. In cases of general nervous irritability, with irregular heart action, all depending upon chronic gastric disorder, this agent is specifically applicable, and will produce satisfactory results.

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**Diphtheritic**

*Medicine*, for January, states that the rule is that

**Paralysis:**

the more severe the local manifestation of diphtheria the more extensive and lasting the subsequent paralysis. This is

subject to marked exceptions: sometimes slight local involvement is followed by severe general paralysis. It has been stated that cases in which antitoxin is used have a larger proportion of paralyses than those in which it is not used. This is based on the observation that since antitoxin has been used the number of cases of diphtheric paralysis has increased. This is readily explained by the lessened mortality. A larger number of the severe cases live to develop paralysis. A number of writers have reported improvement in cases of paralysis in which antitoxin was used weeks after the local signs of the disorder had disappeared.

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**Gastric Indigestion:**

*The Medical World*, for May, states that artificially

fed infants are much more susceptible to disturbance of the digestive function, because of the introduction of bacterial and chemical toxins contained in improperly handled milk, and in those who have been weaned the digestive organs are overloaded with starchy

foods. As a rule these cases of gastric indigestion have been neglected for a considerable time before a physician is called, and a neglected and weakened case produces that variety of cholera infantum which is invariably and speedily fatal, as it is this condition which is a contributing factor to nearly all cases of the latter disease. It is necessary to correct the diet and to sweep the fermenting material out of the stomach and bowels by a brisk purge. Often when overfeeding has been the cause of the indigestion, it is well to put the child on an absolute diet for a few days, or if food be allowed, it should be easily digestible and as a rule fluid. Thin oatmeal or barley gruel, or albumin water reinforced with a few drops of brandy, are the ideal foods under such circumstances and are equally well suited to the infant or the older child. In acute cases lavage with a pint of water containing one and one-half grains of resorcin will often produce a surprising change for the better. Calomel in small doses is the indicated remedy and it is always well to follow it for a considerable period with hydrochloric acid. Opium in some form is generally an absolute necessity. Both creosote and resorcin in appropriate dosage, are admirable and efficient remedies where the disease involves the intestine. Bismuth too in generous doses is generally serviceable. The following facts are strongly emphasized: that gastro-intestinal indigestion takes origin first in the stomach and only extends to the intestine after having been allowed to persist for a time; that cholera infantum is a frequent sequel of gastro-intestinal indigestion and when it occurs from this cause finds a ready victim speedily; and that gastric indigestion in even the youngest child is amenable to intelligent diagnosis and treatment.

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**Pneumonia:** Charles Knapp Law, in the *Medical News* for January 28, believes that we should never lose sight of the fact that any case of lobar pneumonia may be followed by empyema, that it is likely to be so followed in children and young adults whenever the pleura is extensively involved and the pain unusually severe and prolonged. When the temperature does not subside in eight or 10 days, or rises again after the crisis, when the dulness changes to flatness, when the bronchial breathing and subcrepitant rale subside, and vesicular breathing does not take their place at the lower portion of the lung, we should at once aspirate. It is a simple procedure; it is not in the least dangerous, inflicts but little pain, and clears up all obscurity. If pus be found, no time should be lost before operating unless the patient be very weak, when, he believes, the pus should be first drawn off with an aspirator, and shortly afterward, when the patient becomes a little stronger, the chest should be opened and thorough drawing established.

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**Cerebrospinal Fever:** Charles G. Stockton, in *American Medicine*, for April 1, concludes that in the treatment of cerebro-spinal fever, the most useful procedure is the bringing about of the best hygienic condition for the patient: (1) absolute quiet in well-ventilated darkened rooms, with the absence of all excitement and irritation; (2) giving the greatest attention to securing the proper performance of the various functions of the body; (3) the trial of the hot baths after the

method of Aufrecht in all cases in which they seem to do good; (4) the practice of intraspinal puncture, with drainage when necessary to relieve severe pressure symptoms, to be repeated, if necessary, provided benefit follows the first puncture; (5) the use of antipyrin in cases in which the temperature is raised, not only for the relief of this symptom, but for the mitigation of headache and hyperesthesia. Personal experience has shown him that the drug is also useful in improving the mental state, and in his hands it has not been followed by the expected depression; (6) the use of opium or the bromids, alone or in connection with antipyrin, if necessary, for the relief of convulsions, pain, hyperesthesia, and pressure symptoms, generally, which are not relieved by the foregoing methods of treatment; (7) the use of mercury when needed for its laxative effect, or needed to assist in stimulating the organs of elimination.

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**Cerebrospinal Meningitis:** H. A. Moody, in *American Medicine*, for April 15, calls attention to the remarkably favorable results of the early administration of the iodid of potassium, in cerebro-spinal meningitis. The principal prescription employed was potassium iodid with ergotin, .065 gram and .32 gram (1 grain and 5 grain) respectively, every hour at first, then every two, three or four hours, according to the case. Other medication was employed as blisters to nucha and occiput, morphin for pain, free purgation, etc., but the main agents were the iodids and ergotin. Under this line of treatment the death rate was much reduced. In a still later epidemic the same results followed the same line of treatment, and although some patients recovered with loss of one or both eyes, from suppurative choroiditis, and some were deaf, lame or paralyzed, no deaths occurred. The treatment of several sporadic cases has confirmed the good impressions of the usefulness of potassium iodid if begun early and given freely in conjunction with other rational treatment. He earnestly requests all physicians having cases of cerebrospinal fever under their care to try the iodid from the very first, not allowing it to displace any other rational measure. He believes that when bromids and chloral are needed in this disease, it is best to prescribe them in doses of 1 gram (15 grains) of each in simple elixir without other drugs.

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**Cocain:** In the *Medical and Surgical Monitor* for January, J. F. Barnhill, after considerable experience with the drug, concludes that cocaine is of no curative value in any disease of the upper air passages, and is often harmful. He believes that it is of value only to anesthetize the parts, and thus gives opportunity for operative work or thorough examination. Alkaline solutions are universally used for cleansing the nose and throat, and such solutions precipitate cocaine, rendering it inert, or, at least, greatly lessening its anesthetizing power; when such a solution is first used, cocaine should not be employed until the alkali is first neutralized. Normal salt solution is compatible with cocaine and make an excellent application for cleansing when cocaine is to follow it. As cocaine is known to deteriorate after its solution in water, the normal salt solution may be used as a solvent, and renewed every 48 hours. When desired in large amounts he has found resorcin in four percent watery solution far better.

## Academy of Medicine of Cleveland

The twenty-sixth regular meeting of the Clinical and Pathological Section was held at 8 p. m. Friday, June 2, 1905, at the Cleveland Medical Library. The program was as follows: "Thyroidectomy, with Report of Cases, including one of Endothelioma of the Thyroid," Dr C. A. Hamann; "Report of a Case of Tuberculosis of the Breast," Dr Eliot Alden; "Some Problems on the Return Circulation, with Report of Cases," Dr D. S. Hanson; "New Procedure for Opening the Pericardium," with Demonstration of Pathological Specimens, Dr J. H. Bacon.

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The twenty-ninth regular meeting of the Academy of Medicine of Cleveland was held at 8:00 p. m., Friday, June 16, 1905, in the Assembly Room, Hollenden Hotel. The program was as follows: "Illuminating Attachment for Kelly Proctoscope," Dr W. L. LeFevre; "Insanity and Degeneracy affecting Responsibility for Crime," Dr Henry S. Upson; "Fifteen Cases of Nephritis complicating Gastritis," Dr M. J. Lichty; "Observations on Cancer of the Breast based on 92 Operative Cases," Dr Geo. W. Crile.

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## The Medical Library Association

### *To the Members of the Medical Library Association:*

Gentlemen—The building at 586 Prospect Street, now occupied by the Cleveland Medical Library Association, has been in use for nearly ten years. Being constructed for a dwelling house, it can no longer support the weight of books resting upon it, as the floors are already sagging very seriously. They have been braced as well as possible, but the present condition seems to be dangerous. Further than this all the space for books is filled, so that not more than fifty additional volumes could be placed upon the shelves as they stand at the present time. Under these conditions it seems an absolute necessity to erect a building for the accommodation of the books. This should be fire-proof and could be erected in the form of a book-stack at a minimum cost.

In erecting this it seems very desirable to erect at the same time a room of sufficient size to accommodate the meetings of the medical profession. This would require a room with a seating capacity of from 250 to 300. Heretofore the Medical Society has depended for its meeting place upon the Chamber of Commerce. The room formerly used is no longer available. At the present time the Medical Societies enjoy the hospitality of the Hollenden, meeting in its banqueting room. While the hotel has been most generous in giving the societies the use of this room, it is a courtesy which cannot be presumed upon for an indefinite time. It seems, therefore, absolutely necessary to erect an auditorium for the Medical Societies of the city, and it is the plan of the Library to put up such a building in connection with its book-stack in the rear of the present house. This will be constructed at a minimum cost and would be open to meetings of all of the Medical Societies of the city.

To erect a stack and auditorium and connect them with the present Library building, making a few necessary changes in the present building,

will, according to estimates made, cost \$17,700. It is hoped to raise this sum among those who are friendly to the advance of medical education and medical standing in the city, since the Medical Library is one of the most important factors in elevating the standard of medical education and general medical efficiency.

The profession has already given liberally to the purchase and support of the present Library with its collection of 12,000 volumes. It will be necessary for them, however, if a new building is erected, to furnish and equip it and to provide for largely increased current expenses. It is impossible for them to put up the necessary building and also to meet the increased expense. For this reason they have thought it proper to appeal to their friends to aid them in their undertaking.

The value of the Library is very great to the profession and also to the students of the city. To gather the interest of all medical men of every creed in the city in this manner, under one roof, and unite them in a common purpose, would be an epoch making event. While its advantage to the profession would undoubtedly be great, its advantage to the public whom they serve would be greater still. It is strongly hoped that each member of the profession will use his most earnest endeavor to secure funds for the erection of a suitable building, feeling full confidence that thereby he is serving not only the interests of the profession but the interests of the public as well.

BY ORDER OF THE COUNCIL.

Further information may be obtained from the Secretary, Dr Edward Lauder, 602 Osborn Building.

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### The Milk Commission of the City of Cleveland

The Milk Commission is about to send out a circular to physicians announcing an improvement in the method of delivery of Certified Milk. The circular follows: At the earnest solicitation of the Commission, Mr George R. Canfield has opened a store at 1211 Euclid Avenue (near Willson), and put on wagons for delivery of his Certified Milk.

This milk comes in from the farm on the morning electric car. Mr Canfield's wagons will meet this car at a convenient place in the East End, and the delivery of that morning's and the previous evening's milk will commence at once.

A supply will be kept at the store for emergency calls, and for patrons beyond reasonable delivery. The store will be open from 8 to 12 a. m. and from 1 to 6 p. m. The hours on Sundays and holidays will be from 9 to 11 a. m.

The Commission is gratified at the installation of this special delivery, since it will insure the patrons' receiving milk within a few hours after milking. The Cloverdale Dairy Company will have the exclusive delivery on the West Side.

The Canfield delivery will begin about the first of July.

'Phone Canfield's Certified Dairy, Bell, East 2381 J; Cuyahoga, Central 8155 W.

THE MILK COMMISSION.

## Book Reviews

Welch and Schamberg on Acute Contagious Diseases. A Treatise on Acute Contagious Diseases by William M. Welch, M. D., Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases; Diagnostician to the Bureau of Health, etc., Philadelphia, and Jay F. Schamberg, A. B., M. D., Professor of Dermatology and of Infectious Eruptive Diseases, Philadelphia Polyclinic; Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases, and Assistant Diagnostician to the Philadelphia Bureau of Health, etc. In one very handsome octavo volume of 781 pages, illustrated with 109 engravings and 61 full-page plates. Cloth, \$5.00, net; leather, \$6.00, net; half morocco, \$6.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

This volume by Drs Welch and Schamberg, is really a classical contribution to the diseases considered by these observers. Greater opportunity to study the contagious infections has been given to few men, when such a study is based upon an analysis of 9,000 cases of smallpox, 9,000 cases of scarlet fever, and 10,000 cases of diphtheria, in addition to a large number of the other diseases considered, it is marked at once as a work of authority. The volume opens with a history of vaccination in Europe and in America, and continues with a description of the technic necessary and the symptomatology and complications and injuries met with in vaccination. The chapter devoted to the statistical evidence of the efficacy of vaccination is one of great interest, and might well be published as a monograph and sent broadcast to those interested in this important question and to the numerous societies still in existence organized on the basis of antivaccination. The subject of smallpox is considered from every conceivable standpoint and constitutes the largest part of the text. The literature of the subject has been thoroughly reviewed and every source of information has been made use of by the authors, in addition to their exhaustive clinical experience. The subject of scarlet fever has been treated in a no less thorough way and presents in a clear graphic description the sum of our knowledge of this condition. The less important contagious diseases as measles, chicken pox and rubella are fully described. There is a very valuable chapter devoted to the consideration of typhus fever based largely upon the statistics of Murchison, Geuttstat and Buchanan. The concluding chapters are given to the study of diphtheria based upon the authors' wide experience with this disease, and while not perhaps adding much that is new to our knowledge of diphtheria, it gives extremely interesting and valuable descriptions of the etiology, pathology, diagnosis and treatment of this condition. The text throughout is clear and concise and the immense amount of information intelligently presented constitutes a valuable work, descriptive of the diseases. No review of this volume could do it justice without an extensive notice of the illustrations, both diagrammatic and photographic, scattered throughout its text. We have never, in any work, seen the value of photographs so plainly demonstrated as in this volume. In our judgment, their value is enhanced by the fact that they are left untouched, no attempt having been made to color any of them. The half-tone plates are really remarkable proofs of the value of such records in diseases of this sort. Certain of the plates, as for instance plate VI, photograph 19 and plates IV and V, ought to be included in our suggested reprint on the value of vaccination and sent to every antivaccinationist throughout the country. The paper, typography and press work are all that could be desired. A very complete index concludes this most satisfactory volume.

A Text-Book of Medical Chemistry and Toxicology. By James W. Holland, M. D., Professor of Medical Chemistry and Toxicology, and Dean, Jefferson Medical College, Philadelphia. Octavo volume of 600 pages, fully illustrated, including 8 plates in colors. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$3.00 net.

There have appeared many works upon the subject of medical chemistry and toxicology and this volume should be granted a place among the first ranks in these special lines. The whole subject has been considered from the fundamental principles up, step by step, through the physical compounds of organic chemistry including the ferments or enzymes, considered of so much importance at the present time. The work begins with the consideration of metrology, thermometry, specific heat, magnetism, electricity and light, and then it takes up the chemical elements and compounds following the classifications at present largely in vogue in the standard text-books, considering first the non-metals, then taking up the metals and carrying the reader through all the necessary chemical reactions and the steps necessary for the detection of the important poisonous metals. Then taking up the subject of organic chemistry, we have a discussion of the structural formula, the classification of the carbon compounds and then the consideration of the aliphatic compounds. The fatty acids and the organic acids, not fatty, are included, the source of origin also being given. The concluding pages of the volume are given to the discussion of the physiologic and clinical chemistry including changes in digestion, the blood and the urine. One important point which materially adds to the value of this volume is the description given to the presence of various poisonous metals as they be met in our every-day experience. This careful description adds much to the real technical worth of this volume. The necessary processes for the determination of various poisonous substances, metals and non-metals are made perfectly clear and the reader is carried through from the elementary principles in such a way that he cannot fail to grasp the important points and the important significance of the subject. The entire subject of medical chemistry and toxicology is presented in an interesting and satisfactory way. A very complete index is included, and the typography and press work are all that the publishers' imprint implies.

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Bacteriology and Surgical Technic for Nurses. By Emily M. A. Stoney, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. Second Edition, Thoroughly Revised and Much Enlarged by Frederic R. Griffith, M. D., Surgeon, Fellow of the New York Academy of Medicine. 12mo volume of 278 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1905. Cloth, \$1.50 net.

The first edition of this volume met at once with a most favorable reception both on the part of the nursing and medical profession. In this, the second edition, the necessary alterations have been made bringing the work up-to-date, a few new illustrations have been added, the text has been revised and a glossary of the technical terms and phrases used has been included. This volume is one which should appeal to our nurses whether interested in medical, surgical, or obstetrical work. The descriptions are clear and the text is voluminously illustrated and all the various procedures described are made sufficiently plain so as to be readily understood. The glossary is a valuable addition to the volume.

Maternitas. A book concerning the care of the prospective mother and her child. By Charles E. Paddock, M. D., Professor of Obstetrics, Chicago Post Graduate Medical School; Assistant Clinical Professor of Obstetrics, Rush Medical College, Chicago. Cloyd J. Head & Co., 40 Dearborn Street.

This little volume is intended as a guide to the prospective mother and as a guide to her in the early days and weeks after confinement, after the trained nurse has been dismissed. The volume is divided into two parts, the first considering the hygiene of pregnancy and the preparation for confinement, and the second part devoted entirely to the care of the baby. In so far as this little volume is designed to fill its purpose, it should meet with favorable appreciation. The descriptions of the garments necessary, the baby's outfit and all the necessary paraphernalia, including even drying frames for drying children's clothes, should prove helpful to many a mother. This is one of those volumes in which the attempt is made, not to supplant the advice of the physician, but to co-operate with him, and we believe that the writer has succeeded admirably.

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Studies in the Psychology of Sex—Sexual Selection in Man. I, Touch. II, Smell. III, Hearing. IV, Vision. By Havelock Ellis.  $6\frac{3}{8} \times 8\frac{1}{8}$  inches. Pages 12-270. Extra Cloth, \$2.00, net. Sold only by Subscription to Physicians, Lawyers and Scientists. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

In this interesting work, the author has endeavored to trace the sexual selection in man through the influence of the group of stimulae, going through the channels of one or more of our five senses, and in this volume has developed his theory along the lines of touch, smell, hearing and vision. There is, of course, much of interest in the development of this theory and, further, a real basis in fact for much that seems difficult to explain in the sexual selection as seen throughout both the animal world and in man. The author believes that the fundamentals of sexual selection in man is a psychologic process and should be approached wholly from the psychologic side. Any one who reads these essays will be forced to admit that this claim has at least some basis in fact.

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Transactions of the College of Physicians of Philadelphia. Third Series. Volume the twenty-sixth. Philadelphia, 1904.

We have to acknowledge the Transactions of the College of Physicians of Philadelphia.

In this volume the paper upon "Aphasia and the Cerebral Zone of Speech," by Dr Chas. K. Mills; "A Case of Status Lymphaticus," reported by Dr Musser, and a case of "Suture of the Heart, with Recovery," reported by Dr Stewart, are especially interesting, though in a volume of this character, in which there is an unusually uniform high standard of the papers presented, it is difficult to single out any one individual subject for special commendation.

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Nineteenth Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania.

We have to acknowledge receipt of the reports of the Pennsylvania State Board of Health. Volume I and Volume 2, for the year 1903.

Nervous and Mental Diseases. A manual for students and practitioners. With an appendix on Insomnia. By Joseph Darwin Nagel, M. D., Consulting Physician to the French Hospital of New York; Member of New York Academy of Medicine; Honorary Member Societe Royale de Belgique, etc.; Consulting Physician to St. Chrysostom's Dispensary. Series edited by Victor Cox Pedersen, A. M., M. D., Instructor in Surgery and Anesthetist and Instructor in Anesthesia at the New York Polyclinic Medical School and Hospital; Genito-Urinary Surgeon to the Out-Patient Departments of the New York and the Hudson Street Hospitals; Anesthetist to the Roosevelt Hospital. Illustrated with 46 engravings. Lea Brothers & Co., Philadelphia and New York.

In the preface of this volume, the author acknowledges his indebtedness to the standard works upon the subject and states that he has simply undertaken to give the various facts and the necessary data in a compact and intelligible form, easily studied by those in search of precise information. The author has succeeded admirably in condensing in a compact volume of 270 pages, the essentials of the diseased conditions of the nervous system. At the end of a number of chapters, there are given a series of questions which serve as a review of the subject, and as a quiz-compend this little manual will serve its purpose well.

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Practical Medicine Series of Year Books, comprising ten volumes on the year's progress in medicine and surgery. Under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume 1, General Medicine, edited by Frank Billings, M. S., M. D., Head of Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M. D., Professor of Medicine, Chicago Clinical School. Series 1905. The Year Book Publishers, 40 Dearborn Street, Chicago.

In the preparation of this well-known year book for 1905, it is reassuring to note that the editorial staff is to remain the same. This volume, under the direct editorship of Dr Frank Billings, brings the literature of the subject thoroughly up to date. Especially interesting is the chapter devoted to the blood. Also the chapter upon the so-called metabolic diseases and that on the diseases of the ductless glands.

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The Practical Medicine Series of Year Books, comprising ten volumes on the year's progress in medicine and surgery. Issued monthly. Under the general editorial charge of Gustavus P. Head, M. D. Volume VIII. Year Book Publishers.

The department of this volume comprises Materia Medica and Therapeutics, Preventive Medicine, Climatology, Suggestive Therapeutics, and Forensic Medicine, and quite a complete abstract is presented of the progress in each subdivision during the preceding year. About one-half of the book is devoted to Materia Medica and Therapeutics, and the newer remedies of value are quite thoroughly discussed. The physiologic and physical methods of treatment, as electro-therapeutics, X-rays, etc., receive ample notice, while suggestion as a therapeutic aid is well summarized. In fact, the volume is an excellent epitome of the progress in the subjects of which it treats and of practical aid to the physician.

Malformations of the Genital Organs of Woman. By Charles Debierre, Professor of Anatomy in the Medical Faculty at Lille. Eighty-five Illustrations. Translated by J. Henry C. Simes, M. D., Emeritus Professor of Genito-Urinary and Venereal Diseases in the Philadelphia Polyclinic. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1905.

The translator tells us that this translation has been made with the consent of author in order to fill a void in English medical literature. In the special field of teratology, such a volume must of course fill an important place and will undoubtedly prove of interest to those workers in the curious anomalies which so constantly occur. All the embryological points which may have a bearing on the subject are touched upon. The work is profusely illustrated and the translation has apparently lost none of the force of the original text.

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The Ophthalmic Year-Book. A Digest of the Literature of Ophthalmology with Index of Publications for the Year 1903. By Edward Jackson, A. M., M. D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic; President of the American Academy of Ophthalmology and Oto-Laryngology; Ophthalmologist to the Denver County Hospital, St. Anthony's Hospital, and Mercy Hospital, Denver. With Forty-Five Illustrations. The Herrick Book and Stationery Company: Denver, Colorado. 1904.

This is a book of 250 pages that condenses the literature of the year into a form in which it is readily available for reference. In accomplishing this task the author has brought his great ability as a physician and a real aptitude for this particular kind of work, so that the book is an excellent one. The index is very full and complete and adds greatly to the value of the work. The book is well printed, paper, type and illustrations alike good.

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A Compend of the Diseases of the Eye and Refraction, including Treatment and Surgery. By George M. Gould, A. M., M. D., Editor "American Medicine;" formerly Ophthalmologist to the Philadelphia Hospital, etc., and Walter L. Pyle, A. M., M. D., Assistant Surgeon to Wills Eye Hospital, Philadelphia; Associate Member of the American Ophthalmological Society, etc. Third Edition, Revised and Corrected. One hundred and nine illustrations, several of which are in colors. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street, 1904.

The object of this compend is to describe simply and concisely the most important subjects in ophthalmology, giving the novice all the necessary preparation for an intelligent comprehension of the more exhaustive literature of this branch of medicine. That it should accomplish its object there is no doubt, as the text is clearly, though concisely, written. The quality of paper and binding are such as might be expected in a book at so low a cost as this.

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A Book About Doctors. By John Cordy Jefferson. The Saalfield Publishing Company: New York, Akron, Ohio, Chicago. 1904.

This book is Volume IV of the Doctors' Recreation Series, of which the general editor is Charles Wells Moulton. Its contents pertain almost exclusively to the doctor, and there are chapters devoted to the personality and practice of the earlier English physicians, Sir Thomas Browne, Sir Hans Sloane, Dr Radcliffe, and many others being considered. The

work is quite comprehensive in its scope, contains much that is interesting as well as entertaining and is well worthy of a place in every physician's library. There are a number of excellent illustrations, that of Professor Billroth's Surgical Clinic serving as a frontispiece. The work is finely printed with wide margins, and gilt top, and altogether forms a handsome volume.

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**Medical Diagnosis.** A manual for students and practitioners. By Austin W. Hollis, M. D., attending Physician to St. Luke's Hospital, New York; Physician-in-Chief to the St. Luke's Hospital Out-Patient Department; Attending Physician to the New York Dispensary. Series edited by Victor Cox Pedersen, A. M., M. D., Instructor in Surgery and Anesthetist and Instructor in Anesthesia at the New York Polyclinic Medical School and Hospital; Genito-Urinary Surgeon to the Out-Patient Departments of the New York and the Hudson Street Hospitals; Anesthetist to the Roosevelt Hospital. Illustrated with 13 engravings. Lea Brothers & Co., Philadelphia and New York.

There are so many books upon the subject of medical diagnosis that it is really difficult to find an excuse for the existence of any more of the character of this small epitome. It has always seemed to the reviewer that of all subjects, that of medical diagnosis would be the more difficult to treat at all satisfactory in a work of this sort. That there are, however, important points that can be emphasized in a work of this character, can not be denied, but such a volume should, in our judgment, never be used to establish, as it were, a short-cut to diagnosis. As a mere manual giving the barest outline, this volume appears to be satisfactorily compiled. The text is clear and the illustrations used are satisfactory.

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**Eye, Ear, Nose and Throat Nursing,** by A. Edward Davis, A. M., M. D., Professor of Diseases of the Eye in the New York Post-graduate Medical School and Hospital, and Beaman Douglas, M. D., Professor of Diseases of the Nose and Throat in the New York Post-graduate Medical School and Hospital. With 32 illustrations.

The authors of this book discuss the diseases of the eye, ear, nose and throat in a clear and concise way and describe in detail the methods of nursing the various diseases and the care of operative cases. The importance of asepsis and antisepsis is emphasized and the methods of preparing various antiseptic and sterile solutions and dressings are given. The essential points in the anatomy and physiology of these special organs are described. The book is well adapted for use by nurses, and should enable them to do intelligent work in these special branches.

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**A Text-Book of Clinical Diagnosis.** By Laboratory Methods. For the use of Students, Practitioners, and Laboratory Workers. By L. Napoleon Boston, A. M., M. D., Associate in Medicine and Director of the Clinical Laboratories of the Medico-Chirurgical College, Philadelphia; formerly Bacteriologist at the Philadelphia Hospital and at the Ayer Clinical Laboratory of the Pennsylvania Hospital. Octavo volume of 547 pages, with 320 illustrations, many of them in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, \$4.00 net; Sheep or Half Morocco, \$5.00 net.

Although this volume, in the words of its author, does not attempt to furnish more than a working introduction to the department of clinical

diagnosis it will be found a very practical, useful and complete guide for the physician. The methods described are almost solely those which may be performed in the ordinary clinical laboratory with a minimum of complicated apparatus. The diagnostic significance of clinical findings is given under special headings and is frequently accompanied by tables of differentiation. The characteristics in health and disease of the blood and of the secretions and excretions of the human body are adequately considered from the clinical standpoint. Parasites which may be found in these secretions and excretions are more fully considered than is usual in books of this class.

## Medical News

- A. H. Meade is now located at 530 Rose Building.
- R. Pollock now has an office at 260 Euclid Avenue.
- S. H. Large leaves shortly for Europe and will be gone some time.
- J. B. McGee now has a down town office located at 516 Rose Building.
- L. W. Childs now has a down town office located at 516 Rose Building.

John F. Winn, Lecturer on Obstetrics at the University College of Medicine, Richmond, Va., has recently been elected Professor of Clinical Obstetrics.

The Medical Societies of Miami and Shelby Counties met in a joint meeting at Troy, June 8. Papers were read by Dr M. F. Hussey, on "Compound Fractures." Dr F. E. Kitzmiller, of Piqua, on "Should We Have County Health Officers?" Dr. George Goodhue, of Dayton, "Early Operations in Appendicitis."

The Butler County Medical Society held their quarterly meeting, Wednesday afternoon, June 14, at the Court House. There was a large number of physicians present. Several papers were read by well known doctors and an address delivered by Dr C. A. L. Reed, of Cincinnati.

At a regular meeting of the Tuscarawas County Medical Society, Tuesday afternoon, June 7, an interesting paper was read by Dr Whiteleather, of Malvern. Dr Probst, Secretary of the State Board of Health, was expected to be present but failed.

The regular monthly meeting of the Columbian Medical Society was held in the City Hall at Leetonia, June 13, and was an interesting session. Interesting papers on "Empyema Following Pneumonia" and "Apoplexy" were read, both papers calling forth a thorough discussion on the subject treated. The next meeting will be held at East Liverpool, July 11.

The Northern Tri-State Medical Society met June 15 with members from Ohio, Indiana and Michigan present. Dr Nicholas Senn, of Chicago, spoke. Officers were elected as follows: President, W. J. Gillette, Toledo; Vice-president, Theodore Wood, Angola, Ind.; Secretary, W. Schumaker, Butler, Ind.; Treasurer, A. G. Holbrook, Coldwater, Mich. The next meeting will be held in Detroit in January, 1906.

# The Cleveland Medical Journal

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## Gall-Stones

BY F. E. BUNTS, M. D., CLEVELAND

Until relatively late years, surgery of the gall-bladder was confined almost exclusively to operations of emergency, whereas its greatest object today is to avoid the emergency operations by a timely and safe interference. Were it not that I know very well the diversified opinions you may hold regarding appendicitis and its operative treatment, I might venture to draw a very close analogy between gall-bladder surgery and operations upon the appendix, and I may say to those of you who believe in operating upon the appendix, while it is safe, and where practically 100% of cases recover, that is before suppuration, rupture, or gangrene has taken place, that the same reason exists for operating upon a gall-bladder full of gall-stones before inflammation and suppuration and gangrene and rupture have taken place, or before a stone which was lying inoffensively and easily accessible in the gall-bladder has been allowed to find its way into the cystic, or worse, the common duct, and there remain. I wish, too, to say at the very outset that operation upon the gall-bladder, not complicated by suppuration or impaction of stones in the ducts, is one of the least dangerous and most uniformly satisfactory of the major operations of surgery.

In order to present the matter systematically I shall consider briefly, (1) the pathology of gall-stones, or cholelithiasis; (2) the symptoms and diagnosis; (3) the treatment; (4) the prognosis.

Gall-stones may be found in other locations than the gall-bladder, but this is the almost universal point of origin, and their formation elsewhere is practically ignored. There is no age at which they may not be present and yet their occurrence in early years is a rarity. Women are much more frequently affected than

men; pregnancy or tight lacing, or anything tending to impede or obstruct the flow of bile from the gall-bladder favors the development of the stones.

Quoting from von Bergmann's System of Surgery, "Reidel assigns to heredity an important part in their formation. Benecke believes they are favored by atheromatous degeneration and gout. Krauss ascribes importance to rich diet and luxurious living. Albers believes they are commoner among the poor, and Bonchard says there is an especial calculus diathesis." Surely this is an array of predisposing causes sufficient to satisfy anyone, and if we acknowledge all these and many more to be predisposing factors in calculus formation, we still must fall back on micro-organisms for the final explanation of their causation. These may act by causing a catarrhal inflammation of the bile-ducts, extending possibly from a preceding catarrh of the duodenum caused by the colon bacillus, typhoid bacillus, etc., and these microorganisms have been found not only in the gall-bladder but imbedded in the center of a biliary calculus. It is about small particles of mucus or other foreign body that the biliary salts are deposited, and we find the calculi composed thus of bilirubin, calcium salts, cholesterol, or a combination of these. In color they vary with their composition from a light yellow to a dark brown, green or black, the lightest ones being those formed of pure cholesterol.

Gall-stones may cause no symptoms whatever and autopsies may frequently show stones in the gall-bladder where no such condition was ever suspected, and today we find that the abdominal surgeon in his systematic exploration of the accessible organs of the abdomen frequently finds gall-stones where no symptoms had yet arisen to suggest their presence.

What, then, is the reason for such excruciating pain in some cases and none in others? Is it due to the passage of a gall-stone through a narrow duct, causing a pain analogous to that due to the passage of a renal calculus? Undoubtedly yes, in some cases but not in all. I am sure some of you who have had the stools systematically examined, washed and filtered during and after a gall-stone attack, have often been disappointed at your failure to find the offending stone. So far as my own experience has gone, it has been quite the exception to find any stones after gall-stone colic, and yet I am sure that the pain due to their passage is sometimes sufficient to put the patient practically in collapse. In the majority of cases it is my belief that the pain is not caused in this manner, but by the contact of an inflamed

mucous membrane of the gall-bladder with the stones filling its cavity. That this inflammation of the gall-bladder does cause pain is demonstrated most convincingly on the operating table by the finding of the thickened bladder wall, the abraded, inflamed or ulcerated mucous membrane and the numerous external adhesions formed between the gall-bladder, omentum, stomach and duodenum. I have noticed, too, that in cases in which a mucous fistula remained, pain identical in character with that due to gall-stones was caused when the fistula became closed and the gall-bladder became over-distended with the mucus, and was promptly relieved by the opening up, or dilatation of the fistula, thus permitting the free escape of mucus.

The same changes may take place in the hepatic, cystic and common ducts, and we may have them closed by inflammation or by the presence of stones. Indeed, the ducts may be dilated to a very considerable size about one or more stones and the pathologic changes there be just such as we find in the gall-bladder.

The symptoms and diagnosis of gall-stones is, today, I believe, one of the most important and advanced subjects for medical and surgical investigation, for I am convinced that just as rational treatment and operative procedures have followed the correct interpretation of appendicitis, so the more advanced and intelligent treatment will follow a like improvement in our interpretation of the symptoms that make up the clinical history of gall-stones, and just as the terms inflammation of the bowels and typhlitis, and peritonitis are being restricted in their use till they have scarcely any room for application, so gastralgia, neuralgia of the stomach, pylorospasm, and acute gastritis will be used less and less frequently and their place supplanted by the various terms designating the different diseases of the gall-bladder and ducts.

Perhaps one of the most important starting points in considering the diagnosis of gall-stones is the prompt elimination from our minds of the tradition only too prevalent that cholelithiasis is always associated with jaundice. Such is not the case any more than that it is necessary to have a stone forcing its way through the duct in order to produce gall-stone colic. "In 80% of all gall-stone cases icterus is wanting." I presume, too, that long after physicians have generally accepted this idea, that the legend will be handed down to successive generations of the laity who will emphatically refuse to believe that they could possibly have gall-stones if they have never been jaundiced. While jaundice may never have made its appearance, still in a large number

of cases it will have been noted. It is commonly of transitory character, disappearing within a reasonable time after the subsidence of the attack of colic or closure of the common duct. One may readily conceive that if inflammatory action be in the bladder and does not extend to the ducts, no jaundice will necessarily develop, and even in stones obstructing the common duct, jaundice is rarely permanent in character, even where the stone is not passed on into the intestine. The stone rarely completely obstructs the duct except where the duct is inflamed and swollen about the stone, so that as the inflammation subsides the bile slowly finds its way past the obstruction and the jaundice almost entirely disappears.

Repeated attacks of pain, fever and jaundice, prolonged in character, speak for stone in the common duct, while the same amount of pain with less or no fever or chill, and absence of jaundice, or a very faint trace of it, are to be considered important symptoms of stones in the gall-bladder.

Persistent jaundice extending over many weeks or months, and not obviously catarrhal in character, is rarely to be considered indicative of gall-stones. It is true that gall-stones may be found in these cases, but there is usually an associated disease, such as cancer or other tumor, which is pressing upon the duct and permanently occluding it. These are the least hopeful of all cases of gall-bladder diseases and the probability of malignancy must be explained to the patient or his friends.

The pain due to gall-stone colic is usually excruciatingly severe and cramp-like, requiring morphin or chloroform for its relief, and yet this must not be considered absolutely essential, for more rarely it is of a persistent character and located distinctly in the region of the gall-bladder. During the height of an attack of colic the pain is impossible of distinct location, but as it subsides, palpation over the gall-bladder region will show for many hours a decided tenderness, almost pathognomonic of gall-stone disease. This tenderness may sometimes be very acutely elicited by passing one finger under the right costal margin and tapping it sharply with the other hand while the patient is taking a deep inspiration. The pain and tenderness are found located to the right of the median line, as distinguished from gastric ulcer, which is located in, or to the left of the median line, and it commonly radiates back into the right shoulder blade.

Pain due to gall-stone attacks is so much more common than that due to gastralgia or pylorospasm that in any cases of colic

in the upper abdomen, gall-stone disease should be ruled out before any other diagnosis is made, and I am sure that if this course be pursued, there will be a vast increase in the number of cases of gall-stones and a corresponding rarity of our old friends, gastralgia and pylorospasm.

In inquiring into a case of suspected cholelithiasis particular attention should be paid to the history of the patient's stomach symptoms. Associated with gall-stones, chronic indigestion, flatulence, eructations, vomiting and colic are nearly always to be found, and a history of this character should always attract attention to the possibility of a primary lesion in the gall-bladder or ducts. It is to be noted, however, that between attacks, food of varying character, even the most indigestible, may be taken without pain; whereas, in genuine stomach disease this is rarely the case.

Moynihan very neatly summarizes the stomach symptoms in these cases by saying that the most common symptom of gall-stones is indigestion. Gall-stone colic is often promptly relieved by the emptying of the stomach by an attack of vomiting, or better by the washing out of the stomach through a stomach tube and the introduction of a couple of ounces of sweet oil.

The presence or absence of a palpable tumor in the gall-bladder region is a matter of considerable importance, and I think it may be safely stated that the mere presence of gall-stones alone in the gall-bladder does not in an ordinary person cause a palpable tumor. The tumor becomes palpable as a result of inflammation and swelling, a collection of mucus or of pus, or by reason of its invasion by some new growth, usually malignant. It might be thought that a blocking of the common duct by a stone would cause a damming back of bile and distension of the gall-bladder, but it is an interesting clinical fact, carefully investigated by Courvoisier, who states that 70 cases out of 87 of obstruction from stone in the common duct were accompanied by shrinkage or atrophy of the gall-bladder, while in but 17 was it distended. In contrast with this is his statement that in 100 cases of obstruction from other causes than stone in the duct, dilatation was present in 92, and in eight there was either atrophy or a normal gall-bladder.

Thus it will be seen that while a distended gall-bladder does not absolutely rule out gall-stones, it is usually significant at least of other complications, and at operation the discovery of a shriveled, hard or partially obliterated gall-bladder points very strongly

either to the present or past existence of a stone in the common duct. A difference of opinion exists as to the explanation of this fact, but it seems to me most reasonably accounted for by the assumption of cicatricial contraction following repeated attacks of inflammation of the gall-bladder and ducts.

In obstruction of the common duct due to stones, fever is very frequently present and several authors have drawn attention to the very marked sharp rise in temperature accompanied or preceded by a rigor and followed by an equally abrupt subsidence of the temperature, so that in repeated attacks a temperature chart would present an appearance very similar to that due to malaria, and the two diseases have thus been mistaken the one for the other, though in the gall-stone cases there has always been a distinct history of more or less severe colic. Where the stones are in the gall-bladder the fever is indicative of an infective inflammation and is apt to be accompanied by a swelling of the gall-bladder, due either to the accumulation of pus or mucus. Tumors in this region are rarely accompanied by fever except in the later stages, and a careful inquiry into the history will usually point to the occurrence of the tumor long before the fever made its appearance.

In arriving at a diagnosis of gall-stones a certain group of symptoms already referred to, such as digestive disturbances, colic, fever, pain referable to the gall-bladder region and radiating over the thorax and into the right scapula, localized rigidity in case of inflammation of the gall-bladder, sudden cessation of colic and pain, leaving behind a localized tenderness, jaundice, acute in its onset and disappearing early, the possible presence of a palpable mass in cases associated with inflammation or cystic duct obstruction, and the history of previous attacks, all make a picture which in most cases leaves no doubt as to the identity of the disease.

There are, however, a considerable number of other affections which may be mistaken for it, and I think this is particularly true in those cases in which a localized or general peritonitis has also developed and masks the original and deciding symptoms.

The diseases with which it is most frequently confounded are certain digestive affections, such as pyloric or duodenal ulcer, and the various so-called spasms and neuralgias of the stomach. Appendicitis is frequently a source of diagnostic confusion, particularly when the appendix is long and points towards, or is attached to, the gall-bladder, or when it is postcecal and reaches

up into the kidney region; and certain affections of the kidney, particularly calculus and movable kidney with twisted ureter, simulate in some degree the symptoms of gall-stones.

It hardly seems desirable to go into the differential diagnosis farther than to call attention to the above most common sources of error and to ask you to contrast their symptoms with those described as characteristic of gall-stones.

As illustrating the difficulties one sometimes encounters I might describe a considerable number of errors that I have seen made, and made myself, and yet I must still insist that the diagnosis is ordinarily relatively easy, and it is usually in those cases in which an operation is imperative, whatever the cause, that an error is most likely to be made, cases in which the early history is not known, and perhaps owing to the serious condition of the patient cannot be obtained, and in which an accompanying peritonitis very effectually masks the deciding symptoms.

Now as to treatment, I am afraid that I shall be thought too radical when I say that I believe that with few exceptions the diagnosis of gall-stones should be followed by operation, and this in the face of the fact that many cases of gall-stone disease live and die without any symptoms having developed or been recognized. Here I may quote Hans Kehr, of Halberstadt, "The slight dangers of early operation stand in no sort of relation with the great dangers of the disease itself." What are these dangers? They are inflammation, empyema, infective hepatitis, impaction of stones in the duct, perforation into abdomen, intestines or thorax, ileus and carcinoma and the morphin habit. In my own experience I have seen all these complications and serious or fatal terminations, and when I contrast these with the easy, simple, safe and conservative operation of cholecystostomy, when performed on an uninflamed gall-bladder, in which the stones have not yet found entrance into the ducts, I feel that some word that would counterbalance radicalism (not conservatism, for that implies a beneficent process) should be coined to fit that action which allows these promising cases to go on blindly to a possible catastrophe.

I shall not attempt to speak of the medical treatment except to say that during the attack is not a favorable time for operation and some means must be found to give speedy relief from the suffering. The pains are so intense that morphin or chloroform are almost always called for, but very prompt relief often follows

the evacuation of the stomach by the tube, with lavage and injection of sweet oil.

In this connection I wish to quote from Mayo Robson, one of the most distinguished of gall-bladder surgeons, "When gall-stones have once formed, no medicine, so far as we know, can dissolve them or produce any material benefit except by way of palliation. Although numerous remedies have been vaunted as beneficial in the dissolution of gall-stones, their advocates have argued as if the stones were in a test tube, forgetting, apparently, that no drug can reach the concretion save by a very circuitous route and in an extremely diluted form." It would be useless even to enumerate the various remedial agents to which great curative powers have been ascribed. Because relief follows the taking of a medicine is no certain indication that that was the cause of the relief. I had a very striking illustration of this in which a patient, suffering from often repeated attacks of gall-stone colic, got almost immediate relief which persisted for two years after taking a mixture of oxgall and soda, and then when I operated for recurrence of attacks, the startling number of 1700 gall-stones was found, many as fine as grains of sand it is true, but many of sufficient size to cause much distress and colic in their attempts at passage.

The only justification for early intervention must be not only a cure of the patient but safety of the operation. Long standing cases give a much higher death rate than recent ones, and in the statistics of Hans Kehr only two deaths occurred among people below 50, and carcinoma was also present in each of these.

In the experience of some of my colleagues, with whom I have consulted, and in my own, no deaths have resulted in simple cases of cholelithiasis confined to the gall-bladder, and with modern surgical technic it seems that a death in such cases would be among the rarest occurrences in surgery. I do not wish to classify stones impacted in the ducts as harmless; on the contrary, they are often difficult and hazardous, and this very fact is a potent argument for early operation in gall-stones.

## Epithelioma of the Vulva

BY HOWARD DITTRICK, M. B., CLEVELAND

In conjunction with the study of six cases of epithelioma vulvae, which have occurred in the Lakeside Hospital and which I am permitted to report, I have looked up the literature of the subject and have made a special analysis of 135 cases. In addition to the paper on this subject, as it will appear in full, a detailed account of our six cases will be given. In the present abstract only some of the more salient points will be touched upon briefly.

Malignant growths of the external genitalia in women are rare. According to Gurlt, who based his observations on the study of 11,140 benign and malignant tumors, carcinoma of the vulva forms 10% of all cancers in the female. It is met with in approximately .22% of gynecological patients, and in 5.66% of patients suffering from carcinoma of the genital apparatus. Our own percentage agrees approximately with those of other writers taken together.

*Age of Incidence:* In this series of 135 cases the age of the youngest patient was 20 years. West's patient, whose case is so often quoted, was 31 years old, but there were at least four patients who were younger than this. The youngest of our six patients was 32 years old. The greatest frequency, however, is between the age of 61 and 70 years.

*Causes:* Mechanical injuries to the external genitalia are usually cited as among the principal causes. Their etiologic relation, however, to this disease is by no means generally evident. Injuries connected with hard or instrumental deliveries seldom lead to carcinomae vulvae. In two cases carcinoma vulvae developed in women with intact hymens. On the other hand, long continued irritation, as, for instance, that caused by pruritus, undoubtedly often has an etiologic relation with such malignant growths. In 27 cases, or 30%, the patients had suffered from this condition for from one month to five years before there were any signs of a tumor. Of course in some cases the itching must be considered merely as an early symptom, but when a long continued itching has caused scratching with abrasions and pigmentation, and later a carcinoma has developed in this area, it is only fair to assume that the pruritus was at least an indirect agent in its production. In our case No. VI a papillomatous growth had existed for 20 years, and there had

been much itching for a long time. For two years the growth had shown a rapid increase and at the end of that time was a typical epithelioma. In none of the cases in the series was there a history of glycosuria or diabetes. But whether the pruritus is considered to be merely an early symptom or a causative factor, its presence should always make one suspicious and a careful examination of the parts should be made at once.

Leucoplakia has often been noted as a precursor of carcinomae vulvae, just as buccal leucoplakia seen in excessive smokers is not rarely antecedent to epithelioma in this region. Szasz says that leucoplakia is a natural evolution between kraurosis and carcinoma.

Psoriasis has also been noted as preceding epithelioma vulvae. The condition has also been known to develop from a chronic abscess and a syphilitic ulcer. Frequent infections with gonorrhea have been considered as an etiologic factor. It is worthy of note, however, that none of the patients in this series ascribed their condition to a chronic irritating vaginal discharge. In one case the origin dated back to irritation exerted by a truss.

*Types:* There are two types of the disease, the vegetating and the infiltrating—which may coexist.

Histologically there are four classes—the scirrhus, medullary and cancrroid form, and the melanocarcinoma.

*Symptoms:* The most common symptom is itching. When ulceration has taken place, there is usually pain, a more or less foul discharge and some bleeding. Occasionally there are profuse hemorrhages. Intractable insomnia often results from the itching and pain. Dysuria, from implication of the urethra, is not uncommon in the later stages.

*Course:* The disease usually begins on the labium majus and is seen more commonly on the right side. Four stages are described by Maurel: (a) the pretumoral stage characterized by an intolerable pruritus; (b) the second stage in which a tumor with infiltration is present; (c) the period of ulceration usually with speedy involvement of the inguinal glands; (d) in the final stage ulceration becomes more rapid; occasionally metastases are found in the various viscera and the patient dies of exhaustion. The average duration without operation is about two years after the discovery of the tumor. Not a few cases, however, last much longer.

*Diagnosis:* In well established cases the diagnosis is easy. Rapid growth with cachexia and implication of the inguinal

glands is very suggestive. In doubtful instances a microscopic examination will prove conclusive.

*Prognosis:* The prognosis is always gloomy. Return—so far as we know at present—is almost inevitable. I can find no case on record in which the patient remained free from a recurrence for over six years.

*Treatment:* The best treatment consists in early excision of the vulval tissues, with extensive dissection of the inguinal glands on both sides. The X-rays are of little value in these cases. Occasionally for a time they alleviate pain and inhibit the external growth, but they exert no influence upon the deeper extensions. In non-operable cases the palliative treatment is similar to that employed for extensive carcinomatous growths elsewhere.

I wish to express my thanks to Dr Hunter Robb, Dr Dudley P. Allen, and Dr Wm. H. Weir, for the use of their cases, and valuable assistance in preparing this paper.

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## “School” Lateral Curvature

BY HENRY O. FEISS, M. D., CLEVELAND

The spine is a flexible column divided into three curves: the highest or cervical is a convex curve forward, the next, the thoracic, is concave forward, and the lowest is like the lumbar, convex forward. These curves are to be regarded as the effect of balancing. They are attained by shifting the trunk into antero-posterior equilibrium and are maintained chiefly by muscular action.

In early infancy this muscular activity is not present and the child is not able to sit up, but as he grows, voluntary power comes into the muscles and the child learns to sit and finally to stand up. Later the whole action of balancing and maintaining the curves of the spine becomes an involuntary one.

By lateral curvature we understand a constant deviation of the spinal column or any part of it from the median line of the body. It is an asymmetry which is constant. There are various types classified according to their predisposing causes. We have the congenital type which is rare, the rachitic type due to rickets, the paralytic type arising from paralysis of muscles on one side or the other, the static type which is due to inequality of the legs, that type which follows diseases, and of the greatest importance—the type due to occupation.

It is the occupation type that comes under our present notice. We have seen that the normal curves of the spine are maintained as a result of balancing. The maintenance of these normal curves may serve as an analogy of the maintenance of abnormal curves. The spine being flexible it is capable of assuming many asymmetrical positions which are normal if they are not habitual. If, for example, on account of same particular occupation, any person maintains his spine steadily in an asymmetrical position, he will become used to that position and while doing his work will naturally assume this usual position as the easiest. This is not a so-called "habitual" asymmetry unless he takes that position naturally even when he is not at his occupation. However, if the curve is not naturally obliterated when his work is over, it may be that the person may resume the straight position by simply reminding himself to do it. Such a curve comes under the head of a flexible curve. If the curve cannot be straightened out without using undue force, we have a fixed curve. The longer a person has assumed an habitual curve, the more likely it is to be fixed. It is under the head of the occupation type that we must consider "school" scoliosis.

Dr Truslow,<sup>1</sup> of New York, found that in 400 cases of occupation scolioses, the following occupations were represented: School 285, factory 19, clerk 13, domestic 8, millinery and dress-making 8, messenger 3, teacher 2, no occupation 59; making a total of 400.

Bradford and Lovett<sup>2</sup> made observations upon 67 healthy males who were taking an examination. At the end of two hours their attitudes were noted. In all cases there was a slight rotation of the spinal column. The authors assumed, therefore, that if a twist of the spinal column occurs in writing among strong men, faulty attitude must be extremely common in children.

In the last few years there has been considerable discussion as to whether a school scoliosis actually exists. The result of this discussion shows conclusively that the school does produce a great proportion of lateral curvature. The question has recently been investigated by Dr Scholder<sup>3,4</sup> of Lausanne, who says that school scoliosis is that more or less fixed and consolidated oblique position of the trunk which is attained by habit, and which is maintained by changes in the bones and ligaments. The faulty position of school children which, in its beginning, is physiological, gradually becomes pathological

as the position becomes habitual. He further states that the reason why certain physicians have not recognized school scoliosis is because they have only come in contact with such fully developed stages as would naturally appear in orthopedic institutes and hospitals, such as the rachitic and the paralytic types. These physicians, however, base their statistics on their own experience, not recognizing the fact that enormous numbers of children supposed to be well-formed, but who are not necessarily so, have not come under their notice. Therefore, he thinks the proper way to look into the question is to examine the children in school and to see how many are really scoliotic. He examined 2314 school children and found 571, or 24.67%, of these had lateral curvature. To be sure, the great majority of these did not show any marked degree but there certainly was this marked percentage of deformity.

As to the frequency of the scoliosis in the two sexes, he found them equally divided. This differs from the statistics in orthopedic institutions in which, figuring on nine different sets of statistics, the result was 85.8% scoliosis in girls and 14.2% in boys. The reason this is mentioned is to show that the statistics in orthopedic institutions differ from those based on school children. Krug in Dresden found results similar to Scholder in Lausanne.

In Scholder's 571 cases he found the great majority had a left curve and Krug's statistics show about the same. Scholder believes this tendency to a left sided lateral curvature is alone a sufficient argument that school is a determining factor in the formation of scoliosis, for such a lateral curvature corresponds to the faulty attitude usually assumed by children in sitting.

The author we have quoted gives another set of statistics for the separate classes, and found practically a steadily increasing percentage of scoliosis. This again is an argument that there is a "school" scoliosis for it shows that the children who have been longest in school have the greatest percentage of lateral curvature.

7th class, 218 children, 19 cases of scoliosis— 8.7%, myopia in 3. %						
6th	"	257	"	47	"	18.2%
5th	"	408	"	81	"	19.8%
4th	"	404	"	110	"	27.2%
3rd	"	370	"	105	"	28.3%
2nd	"	354	"	115	"	32.4%
1st	"	304	"	94	"	31. %

This table shows besides the percentage of increase in scoliosis, a similar increase in myopia.

Kilburn<sup>5,6</sup> of Boston has also reported on the causative relation between scoliosis and eye-strain.

Scholder shows how his statistics compare with those of other men in other towns.

Guillaume in Neuchatel, 731 school children, 218 cases of scoliosis—29%
Krug in Dresden, 1418 school children, 357 cases of scoliosis—25%
Hagmann in Moscow, 1664 girls .....
Kallbach in Petersburg, 2333 girls .....
Scholder-Weith-Combe, Lausanne, 2314 children, 571 cases of scoliosis .....
23.67%

The conclusion that Scholder drew was that one-fourth of the school children were scoliotic and he designates as the type of school scoliosis an "habitual" form with a left curve.

In considering the treatment of school scoliosis we must recognize the cause, for it is by the prevention that we get the best results. We find two chief causes: First, prolonged attitude, and, second, faulty attitude. The latter may be due, first, to faulty furniture; second, to faulty inclination of the copy-book, and, third, to faulty obliquity of writing. There are other causes of which we may mention faulty lighting. In prolonged attitude the danger is that the tired child wishes to shift its position whether it is a good one or a bad one. The muscles relax and the whole spine collapses into any one of the vast number of faulty positions. It gradually becomes used to one position which we may call the habitual one. The child only gets out of this habitual faulty position when reminded to do so. The point is that we must avoid tiring the child by prolonged attitude. We may do this perhaps by letting the child take a few muscular exercises at various intervals or by any other means which are practical.

As to faulty attitude due to faulty furniture this may be due either to incorrect designing of the individual furniture or to a disproportion between desk and chair. The question of school furniture<sup>7</sup> is a difficult problem because it is so hard to say exactly what furniture is the most suitable. In this matter we ought to be guided more by common sense than anything else. The desk should be large enough, of the right height, according to the size of the student, and not too much inclined. The chair should be comfortable. The distance between the desk and the chair is of relatively great importance. It should not be too great, or the head must be bent too far forward which would tend to round shoulders. Scholder thinks that the back

rim of the desk should be perpendicular with the front border of the chair seat.

The question of the position of the copy-book is of some importance for if the copy-book is very oblique, the head must be turned, which means a curve in the spine. This would imply, moreover, that one eye would be nearer to the book than the other.

It is doubtful whether this position of the copy-book is of great importance but to be on the safe side it would seem, according to concensus of opinion, that the copy-book should be vertical. Then the question comes up as to the obliquity of the writing. Should the oblique style be advocated? Of course if the copy-book is to be vertical the writing must be vertical. Logically this would seem to be the only correct position. The quality of the hand writing from that position ought not to enter into the question, since it is the favorable position for keeping the child straight and for keeping the eyes at equal distance from the book.

On the question of school scoliosis Hoffa<sup>8</sup> writes as follows: "The most important part of the treatment of lateral curvature consists in the prophylaxis." He advocates limitation of the number of school hours, simplification of the teaching program, reduction in the amount of home work, regular methodical gymnastic work with a view of the increased mobility of the spinal column and the strengthening of the muscles, especially those of the spine. Further when we recognize that scoliosis is acquired through incorrect posture disease, then the hygiene of school seating becomes an especial point in the prophylaxis.

Schultess<sup>9</sup> of Zurich takes the following point of view: He says that when we refer to a school scoliosis we mean a left convex total scoliosis and lumbar scoliosis of girls. In the other forms of scoliosis the school is not to be recognized as the chief cause. His theory is that the spine of the child, which is naturally prone to bend to the left, is given the opportunity to assume the attitude and to maintain it for some time on account of writing. For children which are prone to the other types of curves, it is the prolonged sitting position which does the harm. The student sits as he has grown and faulty curves are maintained. As to remedy he advocates measures similar to Hoffa's, (vertical writing).

Lorenz<sup>10,11</sup> writing in 1889, says that he believes the extreme work of prolonged sitting is a more important point in the prevention than faulty furniture.

The conclusion that we may draw from all the foregoing is

that there is such a thing as a school lateral curvature. Whether it is a left lateral curve or a curve of another variety is of relatively little importance, the point being that the school is a predisposing cause to deformity.

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## Castor Oil Treatment of Trifacial Neuralgia

BY GEORGE GILL, M. D., NORTH RIDGEVILLE, OHIO

In 1886 in one of the large hospitals of Vienna a man lay suffering from trigeminal neuralgia. He had long been a miserable victim, and was awaiting an operation by Professor Gussenbauer for relief. One of the procedures preparatory to all surgical operations done by Dr. Gussenbauer was the administration of a large dose of castor oil. The day following the catharsis, the neuralgia was so much better that surgical interference was postponed. However, the patient was kept ready for the knife and daily doses of oil were accordingly given. To the surprise of all, the improvement continued, the neuralgia was cured and the patient discharged. This is the reported beginning of the castor oil treatment (*Journal of the American Medical Association*, 1900, Vol. 35, p. 368).

Ochsner, in 1900, reported good results in 15 cases treated with the oil in the Rush Hospital. Moyer in the same year at a meeting of the Chicago Medical Society reported 17 cases of neuralgia treated with castor oil. Of these 10 were of the trige-

minus, seven were of other nerves. He was enthusiastic in his commendations.

At the Northern Ohio District Medical Society meeting, held at Lorain, July 26, 1900, Dr C. J. Aldrich, of Cleveland, read a paper entitled, "A Treatment for the Cure of Inveterate Cases of Trigeminal Neuralgia." This paper was subsequently published in the *Cleveland Medical Gazette* of November of that year. His treatment consisted of the combination of the castor oil and the use of strychnia in ascending doses, the latter being known as the Dana treatment of trigeminal neuralgia. He reported excellent results even in cases that had been abandoned to the knife.

I wish to report a case treated according to this combination plan. The patient was a woman, 48 years old, giving a good family history. Her personal history was good excepting considerable rheumatism of the small joints resulting in some deformity. When I first saw her she had been suffering from trigeminal neuralgia, a genuine *tic douloureux* with its characteristic intermissions, for about six weeks. Her temperature ranged a little above normal, pulse about one hundred, and blood-pressure high, varying with the intensity of pain. She was very much prostrated, with loss of appetite and at times nauseated. Her bowels were constipated, urine very acid, of high specific gravity, and without albumin or sugar. Specifics, so-called, were administered, elimination tried, osteopathic treatment experimented with, but her pain waxed rather than waned.

Dr Aldrich, of Cleveland, was called in consultation and at his suggestion his combined treatment was instituted. She was ordered one ounce of castor oil in the morning, an hour before breakfast, nitrate of strychnin morning and evening hypodermatically with enough morphin to control the pain. The morphin was to be gradually decreased in dose and as fast as possible. In fact it was discontinued after three days. The strychnin was given twice a day in gradually increasing doses. One grain was dissolved in two hundred minims of water, and we began with five drops, increasing one drop a day allowing 15 or 20 days to come to a maximum dose of one-tenth or one-eighth grain, or until signs of strychninism appeared.

The patient was so much better by the end of a week that the dose of strychnin was not further increased but gradually withdrawn. The castor oil was given for some time longer, then intermittently until all pain was gone. Since then the woman has had a few slight attacks, but is promptly relieved by a few

doses of oil. She has been pretty well now for eighteen months, and evidently improved by courses of Blaud's and hypophosphites and other tonics and reconstructives.

Early in October, I received a letter from a physician describing a case as follows: A woman, 68 years old, had been having severe attacks of trigeminal neuralgia for the last 20 years. During the last two years the pain has been very nearly continuous. Several physicians had advised surgical treatment for its relief. Electricity was used to relieve the spasms of pain. No strychnin was given, but some arsenic and other remedies, one of which was an ounce of castor oil at night. In six weeks her pain had disappeared, and now one year has passed without a bad attack. When she gets very tired she has a little pain in her face, but she takes a few doses of castor oil and is all right.

Another case of my own was a man of 65 years. Ten or 12 years ago he suffered from attacks of pain in the left forehead, side of nose, and upper eyelid, which gradually wore off. A year ago he was again attacked. The pain was never so severe as to prostrate him nor interfere much with his general health, but was a source of great discomfort. I advised his taking castor oil daily which he did for a few days, but was so nauseated that it was discontinued. For a time the attacks were not so frequent nor so severe, but they still occasionally recur. Purging with the compound cathartic pill also seems to help him considerably.

As an instance of the use of castor oil in other than trigeminal affections, I might report, though a little aside from the subject, the following case: A man of 35 years has been subject to recurring headaches, true migraine, for 10 years or more. These attacks coming every two or three weeks, last from one to three or four days. The pain shifts from one part of the head to another, sometimes settling in the nose. When a boy he had been kicked by a horse on the nose injuring the septum. Thinking possibly this deviated septum might be the cause of the trouble an operation was done for its correction, but afforded no relief. Seeking relief from pain he fell into morphin and cocain habits, was sent to an institution and came back cured both of bad habits and headache. Later the headaches came on again. Castor oil was prescribed in ounce doses daily. He took it for about two months during which time he became almost free from headache. Since then he has never had so severe nor such frequent attacks as formerly, but now the oil seems to have lost much of its effect.

The use of castor oil in trigeminal neuralgia appears to be entirely empirical, but it has taken a place and a very important one in the treatment of that disorder. It is a good example of a *new use for an old remedy*. It will not take the place of quinin and arsenic in malarial brown-ague, nor will it remove a carious molar and its abscess that is infecting and inflaming the trigeminal terminals. It will do little good in pain due to pressure from new growth or syphilis, but in well selected cases of trigeminal neuralgia it proves a sovereign remedy. Indeed experience has abundantly proved that case after case has been cured after many men and measures had been sought for relief. Not a few had been advised to accept the knife as the last resort, and went farther only when the mutilating effects and great danger of the operation was explained to them. Castor oil cannot be expected to cure every case. Indeed, it is hard to be sure in which case it will prove effective, but it should be tried with patience and persistence in all cases. Dr Aldrich is impressed with the peculiar effectiveness of the combined Dana and castor oil treatment. My experience has not been extensive enough to warrant any positive statement, but so far as it goes tends to confirm his position.

Butler says castor oil is a compound of glycerin, fatty acids, and an acid peculiar to itself, ricinoleic acid, and that this acid passes the stomach unchanged but in the presence of pancreatic juice and bile forms a salt with sodium.

Besides its cathartic action upon the bowels, castor oil has a well recognized quieting effect, this is often noticed when given in doses short of catharsis where it is retained in the bowels for a time.

When given in large doses, after the first few days it appears to loose its cathartic effect and then does not usually move the bowels more than once.

Its action in neuralgia is not due to its cathartic effect, for other means of catharsis tried in the same cases do little good. One has said, "Neuralgia is the cry of a hungry nerve for food." In some cases it is the yell of an intoxicated nerve-center. Just how castor oil provides the needed food, or eliminates the special intoxicant or otherwise meets the requirement may not be known for some time, but when understood we will give to the remedy a larger place in the rational treatment of this most grievous affection.

## A Twelve Months Mortality from Typhoid Fever

A writer in considering the typhoid mortality of Cleveland for the year 1904 states that, "In July, apparently, the effect of the contamination in the water from the old intake had entirely passed away, and we had touched the normal and better level of the new intake." Since the first of July 1905 marks the passing of another six months, it may be interesting to consider for a moment the typhoid mortality of Cleveland for the 12 months just elapsed.

The number of deaths from typhoid fever, occurring during the first and second six months of a year, bear a fairly definite relation to each other. During the 11 years 1892 to 1902 inclusive, the spring mortality in Cleveland has been proportionately greater than that in the urban portion of the registration area of the United States, on account of our spring epidemics. On the basis of previous Cleveland experience, we might be warranted in expecting a typhoid mortality of 8.7 per 100,000 of the population for the six months which have elapsed since January 1st, 1905. On the basis of the typhoid mortality of the urban portion of the registration area, an estimated mortality of 5.86 was warranted. These estimates of the mortality for 12 months would be 18.76 and 15.92 respectively. Twenty-nine deaths were assigned to typhoid fever and its synonyms as a cause in the first six months of 1905. With a population estimated at 451,000 this is equivalent to a mortality of 6.43. The mortality from typhoid fever in Cleveland per 100,000 of the population for the last six months of 1904 was 10.06. Adding these mortalities, 10.06 and 6.43, we have 16.49 as the typhoid mortality from July 1st, 1904, to July 1st, 1905. This is in excess of the mortality estimate based upon the urban portion of the registration area, but less than that based upon Cleveland's previous experience. That the showing is better than might be expected is doubtless due to the absence of spring epidemic this year. Whether they will continue to be absent in the future with the use of water pumped from the new intake exclusively, it is impossible to say. At the time when the ice went out this spring, there were no marked floods, and this circumstance was particularly favorable for a low typhoid mortality.

# The Cleveland Medical Journal

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MONTHLY

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## EDITORIAL

### The Portland Meeting

The annual meeting of the American Medical Association, held in Portland, July 11 to 14, was one of unusual interest and from every standpoint may be considered as eminently successful. The actual attendance numbered about 1600. In view of the distance from which many of the members went, this may be fairly considered a large number.

There can be no doubt that the influence exerted by this annual meeting, held in widely distant parts of the country, is an immense factor in stimulating the interest, not only of the profession of the State and City, the hosts of the Association, but of those members who come from greater distances.

In so far as mere increase in numbers may be accepted as an index of the growth of the American Medical Association, the Secretary's report is most gratifying, showing as it does a gain of 4889, against which must be offset resignations and deaths to the number of 938, leaving a net gain in active membership of 3951 for the past year. The actual figures of the number of

resignations were 535, and it is interesting to know that this number felt that the Association meant so little to them that they could afford to resign.

In his address, the retiring President, Dr John H. Musser, touched in a general way upon the successful growth of the Association, paying a gracious tribute to the ex-President, Dr Billings, for his efforts in bringing about the complete organization. He also made an earnest plea for greater efforts toward scientific work and for a broader view of our relationship towards all questions of a medical or sanitary nature, of civic or State origin, and urged a closer coöperation with the national government and the army, navy and marine services in all matters of common interests.

Dr Lewis S. McMurtry, the President-elect, reviewed in his address the early history of the Association, its organization, and spoke of what he considered the new era, dating from the appointment of the Committee on Reorganization at St. Paul, in 1900, and alluded briefly to the valuable and important work on medical legislation that is being accomplished by the Association.

#### BUREAU OF MEDICAL LEGISLATION

Among the many suggestions offered for increasing the potential power of the American Medical Association as an organized body, that contained in the report of the chairman of the Committee on Legislation, which recommendation was adopted, appeals to us especially as an eminently wise and practical move. Dr Reed's recommendation in brief was that a Bureau of Medical Legislation be established in Chicago with permanent offices in the Association Building. Such a Bureau to act as a clearing house and a permanent fulcrum for intelligent and efficient coöperation in the conduct of those affairs that must necessarily come under the domain of the Committee on Legislation, which includes such widely divergent interests as the Patent Medicine Trust and the sanitary condition of the Panama Canal zone.

#### PROPRIETARY REMEDIES

The question of proprietary remedies was, as was to be expected, the subject of no little discussion, both in the House of Delegates, following the resolution introduced by Dr Dorsett, of Missouri, and in the general session, in the discussion of Dr Billings' paper devoted to this subject. It is indeed to be hoped that the Association may be able to take such a stand in this matter that the various component bodies, State and County Societies, and their official publications, will be compelled to follow its

example, and that the manufacturers will be forced to adopt the perfectly legitimate means suggested for their and our own protection.

We are glad to note, in the resolution presented by Dr Wills, of Illinois, the appreciation so generously accorded those lay publications which have done so much to expose the false claims of the various patent medicines and secret nostrums which are flooding the country.

#### TREASURER'S REPORT

We have not yet analyzed carefully the Treasurer's Report, but as the figures given speak eloquently for the record of the year, it is evident that both the Association and the *Journal* have been eminently successful considered from the all-important standpoint of finance. The total amount gained during the year 1904 over 1903, is indeed remarkable. The great increase from advertisements has been accomplished in spite of the exclusion of more than \$15,000 worth of advertisements carried in other reputable journals, but which did not meet the requirements of the *Journal* of the Association. Surely there is a moral here.

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### The Effect of Tobacco in Health and Disease

The general prevalence of tobacco smoking and the enormous amount of it used, should certainly furnish many instances of its harmful effects. Clinically, however, they are relatively infrequently encountered. Such cases are usually due to excessive indulgence, or they occur in immature or peculiarly susceptible individuals. The subject is discussed from several standpoints by as many leading authorities in the *Practitioner*, London, July, 1905.

The concensus of opinion seems to be that its use is not usually harmful in moderation, but like everything else it can be overdone. The active principle nicotin is not present in large amount in tobacco smoke nor in ordinary chewing tobacco nor snuff. In smoke, the place of the nicotin is largely taken by pyridin and picolin bases, and the relative amount of these varies both with the kind of tobacco and also with the manner of smoking. In the case of cigars, the air supply is abundant, combustion is thorough and very little pyridin is found, a less harmful product collidin taking its place. In pipes, on the other hand, the combustion is less thorough and a larger proportion of pyridin is present. For this reason stronger tobacco can be smoked, without ill effects, in the form of cigars than when pipes are employed.

The harmful effects of cigarettes are, in part, due to their convenience and therefore to the fact that large numbers are apt to be smoked, but in addition their smoke is so frequently inhaled into the lungs where the absorption of the harmful constituents is far more thorough than through the buccal mucosa.

There appears to be a double action of tobacco upon the heart and circulation. Experimentally in animals nicotin at first produces slowing of the heart, due to vagus stimulation and stimulation of the inhibitory ganglia of the heart. The blood-pressure rises enormously, due to stimulation of the vasomotor center in the medulla and also as a result of the direct effect upon the arterioles themselves whereby their calibre is greatly reduced. Later the inhibitory ganglia of the heart are paralyzed and with a more rapid and feebler heart action, the blood-pressure drops.

Tobacco produces both mental activity and is also a sedative in conditions of mental excitement, which sounds rather paradoxical, the former effect is probably due to improved cerebral circulation, while the latter may be caused by the necessity of rythmical breathing or by the distraction induced by watching the smoke, for it is a well recognized fact that many people do not care to smoke in the dark.

Upon the gastrointestinal system, its effect is mainly a stimulant of salivary secretion. If this be swallowed upon an empty stomach, heartburn may be induced by the resulting flow of acid gastric juice, or, if a meal has just been taken, the alkalin saliva by neutralizing the gastric acidity may delay digestion and produce dyspepsia. The vomiting so often seen when tobacco is first used, is probably more nervous in origin than due to gastric irritation, for the same effect is produced by tobacco enemata. The motility of the stomach and intestines as a rule is inhibited, although there is a prevalent idea that a morning smoke induces a bowel movement, this is probably due more to habit and mental effect than any direct action of the tobacco upon the intestinal muscle.

The nervous symptoms are often marked, the more common being tremor, giddiness, sleeplessness and vasomotor effects, such as coldness and cyanosis of the extremities. Upon young people these effects are more readily produced than in adults, and in this action tobacco resembles opium.

The mouth and tongue may show lesions from excessive smoking, these varying from a slight superficial excoriation to a marked glossitis, or even a warty patch, while the connection

between epithelomia of the lip and smoking, especially with a short clay pipe, seems well established.

The action upon the upper air passages is mildly stimulant and may produce a hyperemia, or even a chronic pharyngitis or laryngitis, but this same action may be beneficial in dry nasal catarrhs. The fact that so many good singers smoke with impunity, argues for the usual harmlessness of tobacco upon the vocal organs.

The eye is apt to show serious disturbance, such as an amblyopia, the color perception is affected especially for green and red, a fact of great importance in the case of sailors, locomotive engineers and others who have to distinguish color signals. The exact nature of the lesion is not very clear but the relationship to the use of tobacco is very evident.

In most of these conditions induced by tobacco, the symptoms will usually disappear readily upon cessation of smoking for a longer or shorter period. Upon resumption there must be no over-indulgence or the symptoms are very apt to recur.

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### American Medicine and Colonial Expansion

In an unusually interesting paper read at the last meeting of the American Medical Association (*Journal of the American Medical Association*, July 15, 1905), George Blumer discusses the influence which the acquisition of tropical territory by our government has had, or may exert upon American medicine. Blumer calls attention to the fact that the conditions on this Continent are more suitable for the development of tropical diseases than in Europe, owing to the fact that this country includes, not only semi-tropical but a few actually tropical areas.

As significant of the results which immediately followed the increased interest in tropical diseases, this writer cites the discovery that uncinariasis (ankylostomiasis) is endemic in large sections of the South as perhaps the most startling result of this renewed interest. Up to 1900 not more than 10 authentic cases were on record in American literature. Since this time, Blumer has been able to find in the available literature 1212 cases, 1090 of which originated in the United States. The disease is known to be indigenous in Virginia, North and South Carolina, Georgia, Alabama, Louisiana, Texas, Mississippi, Missouri and Tennessee. A list which the writer considers does not include all the infected States, and to which might be added a number of States, similar

in soil and climate, including even the southern portions of our own State of Ohio, though no evidence is offered in support of this assumption.

As a further direct result of the increased interest in tropical medicine, we largely owe our knowledge of dysentery and yellow fever, and in no small measure has our knowledge of malaria been increased as a result of a general stimulation of interest incident to the larger opportunities of observation.

As a result of work done in Porto Rico we have learned much concerning filariasis and malta fever, while to the Philippines alone we owe the results of the study of human trypanosomiasis. It is true that certain forms of animal trypanosomiasis have appeared in the United States, but according to Blumer, it will be difficult to determine whether there is any possibility of the introduction of the human forms until we know more of the life history of certain forms that are parasitic in man.

The acquirement of the Isthmian Canal zone has led to renewed interest in and study of dengue which must lead to a settlement of many obscure points. The sum total of our knowledge of Asiatic cholera has been greatly increased since our occupation of the Philippines, and has led to the production of a protective serum by R. P. Strong, shown experimentally to be effective against the cholera spirillum. Plague, the last of the tropical diseases considered in this review by Blumer, has been carefully studied by a number of observers and though nothing startlingly new has been discovered, a great deal of valuable work has been done.

Thus we are told in brief that uncinariasis we have with us, have had in fact for a hundred years, and that we are justified in hoping for a solution of the problem involved in its control and eradication. That, as a result largely of the work of Flexner, Strong, Musgrove and others, our knowledge of dysentery has been systematized and a protective serum is an established fact. The history of yellow fever and malaria is too well known to need comment. That there is a justifiable fear of the possible danger of filariasis being introduced into new districts in certain parts of the country, through the agency of mosquitoes, is a logical conclusion as a result of the work of Ashford, Calvert and De Sasure, and Blumer considers it apparently probable that this disease is at present more prevalent in the South than is generally believed.

In concluding the writer points out the fact that we are forced to admit the presence of many of the so-called tropical diseases in

the sub-tropical portions of this country, adding the reassuring conclusion that the acquisition of tropical possessions by the United States has had a wonderfully stimulating effect upon American medicine, and has been productive of scientific work of the very highest character, a most satisfactory tribute to the work of American men and medicine.

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### Save the Appendix

Under the above heading, the editor of *Everybody's Magazine* has contributed a most amusing skit upon the poor much abused appendix, basing his editorial notes largely upon the recent appeal of an English surgeon for the preservation of the appendix. There is so much that is to the point in the essayist's suggestions as originally put forth, that we quote in full from the editor of *Everybody's*, who has not missed the humor of the situation.

"How many vermiform appendices are there in the world today? A few savage and semi-civilized nations retain them, but the supply in lands where the surgeons flourish must be small, for Slasher has been at work all over. Like a sportsman who cries, 'Save the buffalo!' Mr Joseph Kidd, M. D., of England, rises and cries 'Preserve the appendix!' and tells how it may be done. Chills following overheating, and imperfect mastication make trouble for the appendix. The grape-seed of horrid memory deserves not half the odium it has received—and too much aperient water and salts are bad for this mysterious organ, just as they are for all the rest of man's internal economy. Don't let the chill get you, chew the food thoroughly—Gladstone masticated every mouthful forty or four hundred times—and make nature do the work below the diaphragm without chemicals and drugs except when a doctor says they are necessary. We are the great drug-swallowing nation. We flood our insides with nostrums, fill the intestines with mercury, and bolus ourselves not merely when it is unnecessary, but when it is positively harmful. Doctor Legs and Doctor Arms properly employed will cure most of our minor ills. Their fees are nominal, and they pay big dividends. Ten years ago a war of extermination was waged against the human appendix. Today it is regarded less as a foe to be destroyed, but many surgeons delight to cut. Many charges brought against the appendix were quite unfounded. Let those who may, preserve theirs; and let all remember that surgeons do not work for nothing."

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### Two New Journals

As an evidence of the development of the State Associations and the progress which has been made toward complete organization, the appearance, almost simultaneously, of two new State

journals is not without interest. The official *Journal of the Medical Society of New Mexico* has appeared under the editorial supervision of Dr Guy H. Fitzgerald. Dr Fitzgerald has been, for a number of years, a contributor to this JOURNAL, and consequently is well known to all our readers. This publication represents in every way the best interests of the profession of the State, and the State Association is to be congratulated upon the publication of so excellent a journal.

With the issue of July, the first number of the *Ohio State Medical Journal* has appeared under the control of the Publication Committee of the State Association. The history of this step forward is well known to our readers. Judged by this first number, the *Journal* promises to fill an important place in the medical life of Ohio and we heartily wish the Publication Committee all success in making our *Journal* one of the best State journals published.

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## Report of the Meeting of the Neurological Society of the United Kingdom

London, June 27, 1905.

Editor of THE CLEVELAND MEDICAL JOURNAL:—

The meeting of the Neurological Society of the United Kingdom which I had the good fortune to attend in London, June 24, was of such great interest that it occurs to me that your readers might possibly enjoy a gossipy account of some of its illustrious members and their proceedings.

The meeting was held at the National Hospital for Paralyzed and Epileptics, on the date mentioned, and the President took the Chair at 10 a. m. and at once adjourned the meeting to the Out-Patient Department where the following cases were shown by the respective members:

DR BEEVOR. (a) *Progressive muscular atrophy, immobile pupils, exostosis on humerus.*

A. R., M., aged 38, French polisher. Onset four years ago with cramps in fingers, wasting of thenar eminence and first interosseal space, forearm, and, lastly, biceps. No pain, numbness, nor loss of feeling. Disease seems to have progressed more rapidly in past six months. Gonorrhea ten years ago. No history of lues. Married; no children; no miscarriages.

*Present condition:* Fairly well nourished. Bony exostosis under tendon of left biceps. Smaller one on right humerus. Pupils—pin point, R>L. Argyll-Robertson—Do not dilate to shade, dilate slightly to cocaine, vision 6/6 R. and L. Symmetrical atrophy slight in triceps; marked in biceps, extensors, thenar eminence, abductor indicis and interossei. Weakness of corresponding movements.

*Electrical reaction:* Partial R. D. in atrophied muscles. Small muscles of thumb do not react to faradism or galvanism.

*Reflexes:* Triceps, knee-jerks and ankle-jerks normal. Biceps and supinator-jerks absent. Plantars flexor.

(b) *Peroneal type muscular atrophy—familial type.*

J. T. S., M., aged 38, tailor. Twenty-one years ago, difficulty in walking. Wasting of calf muscles followed by wasting of thenar eminence. Wasting has progressed more rapidly in last two years. No pain, tingling, nor loss of sensation. One brother and one sister similarly affected; both younger than patient. Brother is well advanced. Sister affected only in one foot. In neither are the hands affected.

*Present condition:* Some wasting of forearms. Atrophy of small thumb muscles. Dorsal and palmar interossei. Weakness in corresponding movements. Some fibrillary twitching in small muscles of thumb. Atrophy of calf muscles and peroneal group, pes equinovarus. Weakness in corresponding movements of feet. Electrical examination shows changes in absence of reaction of muscles to faradism and galvanism.

*Reflexes:* Triceps, biceps, supinator, and knee-jerks normal. Ankle-jerk absent. Plantar flexion, epigastric, abdominal, and cremasteric, normal.

*Gait:* Can scarcely stand without mechanical support. Has had several operations of tendo-Achilles and plantar fascia performed by Mr Fisher.

(c) *Mesencephalic lesion.*

M. J., F., married, age 39. Eleven years ago staggered in walking. Seven years ago difficulty in speech and could not close right eye nor move either eye out. Five years ago stiffness in right arm, with ataxia. Two years ago regurgitation on swallowing. One year ago micturition difficult, numbness in fingers, diplopia. Eight months ago vision diminished.

*On admission:* Slow, deliberate, staccato, syllabic speech, somewhat slurring, accompanied by side to side tremor of head; laughter explosive; visual field restricted to 5°. Post-neurotic atrophy.

Lateral conjugate deviation impossible; on attempt convergence of both. Upward and downward movement present; pupils equal and regular, react to light and accommodation. Paralysis of right side of face. Watch heard only when applied to ear.

Pharyngeal reflex absent, deglutition difficult, speech as above. Soft palate moves weakly, tongue protruded normally, incoordination and intention tremor.

Lower extremities rigid and incoordinate. Complete anesthesia, analgesia; loss of sense of position, astereognosis; diminution in weight sense.

*Reflexes:* Knee-jerks active, plantar right flexion, left (?) flexion; abdominal and epigastric slight.

DR J. H. BRYANT. '(a) *Two cases of peroneal type of family amyotrophy.*

CASE I: Lillian S., aged 12, first came under observation in April, 1901, for wasting of the muscles of the legs and hands. Forceps were used at her birth, but there was no apparent injury to her brain.

She began to walk at the age of ten months. When four she had an attack of whooping-cough, after which she was unable to walk properly. On account of this trouble she was taken to an Orthopedic Hospital, where a diagnosis of infantile paralysis was made, and she was ordered to wear boots with iron supports.

At this time both feet and legs were wasted up to the knees. At the age of five and a half years, she had an attack of scarlet fever, and at six and eight attacks of measles. In January, 1900, wasting of the muscles of the hands was noticed.

Both her parents are strong and healthy. A paternal uncle is suffering from a similar disease characterized by weakness and wasting of the legs and hands. A brother (Case II) is also affected with a similar disease. She has two brothers aged eighteen and seventeen who are quite well.

*Condition:* The feet, hands and legs are weak. The gait is somewhat "high-stepping" in character. There is slight talipes varus.

There does not appear to be any loss of sensation to touch, pain, heat or cold, but it is curious that strong electrical stimuli applied to the hands cause no feeling of discomfort or pain.

There is marked wasting of the thenar, hypothenar and interossei muscles of both hands.

The muscles of the legs are not much wasted.

There is no wasting of the deltoids, scapular or facial muscles. Slight fibrillation has been noticed at times in some of the muscles. There are no hypertrophied muscles.

The knee-jerks cannot be obtained. The plantar reflex is present, and is flexor in character. Neither wrist nor elbow-jerks can be elicited.

On stimulation, both with the faradic and the galvanic currents, there is no response in the thenar, hypothenar, and interossei muscles, the small muscles of the feet, the peronei, tibialis anticus, and extensor longus hallucis.

(b) CASE II: Percy S., aged eight, first came under observation in August, 1903. Forceps were also used at his birth, but there was not apparent injury to the brain. He was able to walk and run about as other children until two and a half years ago, when he had an attack of measles, after which his mother noticed he was weak on his legs and could not lift his big toes. He seemed to be helpless, and began to fall down frequently on account of his legs giving way under him. When first seen, the paralysis of the extensor longus hallucis muscles was the most striking feature.

He has become much worse, and now cannot walk at all by himself unless his legs are supported by straight internal splints extending from the foot to just below the knee.

The feet are dropped, the big toes are flexed, and the feet are in a condition of talipes equinovarus and pes carus.

The thenar and hypothenar muscles have commenced to waste.

An attempt was made to test the electrical reactions, but he was so frightened and struggled, and made such a noise, that it was impossible to obtain any reliable data.

DR GEORGE OGILVIE. *A case of tabetic gait beginning at the age of 64.*

Male, aged 73, formerly a storekeeper. He was in good health up to the age of 64—since then progressive weakness and unsteadiness of the legs. Unable to walk alone during the last five years.

*Present state:* Mental condition good. Speech slow and hesitating.

Lower Limbs—Strength poor, but no wasting. Cannot walk or stand alone. Tabetic gait. Knee-jerks absent. Much sweating of the legs and feet. Skin poorly nourished. No lightning pains or cramps. No anesthesia. Muscular sense good.

Upper Limbs—Strength poor. Grip— $\frac{1}{4}$  normal. Slight tremor and incoordination.

Sight—Becoming worse during last year. R. 6/12, L. 6/18. Pupils react to light and accommodation. Nystagmoid movements on extreme excursion. Slight general contraction of the fields of vision. Lenticular opacities. Subsiding optic neuritis, passing into atrophy on the left side.

No girdle sensation. No visceral crises. No incontinence.

DR H. CAMPBELL THOMSON. *Case of tremor.*

M., S., female, aged 34.

Fifteen months ago suffered considerable shock owing to the death of a relative, and soon after she noticed the left arm began to tremble.

There is now a rhythmical tremor of the left arm, varying in intensity, but said to be never absent, except during sleep. It is usually rather worse during voluntary movement. General health is good.

DR T. D. SAVILL. *A case of ataxy in a woman, aged 40, of twenty years duration.*

Margaret C., aged 40, has been unable to walk properly for twenty years. The difficulty came on quite suddenly sixteen days after a severe fright, consisting of her mistaken apprehension by the police. According to her own account, the difficulty of movement was almost as great then as it is now, and it has not varied much, excepting when she had "Viter's dance" thirteen years ago. There is no definite history of syphilis.

At the present time the symptoms are mainly two in number, *incoordination* of all the limbs, sufficient in the legs to prevent her walking or standing without crutches, unaccompanied by paralysis or atrophy, and increase of all the *tendon reflexes*, Babinski's reflex also being present. The speech has an explosive or staccato quality, suggestive of disseminated sclerosis, and the teeth are the seat of pyorrhea alveolaris. The pupils, fundi, and fields of vision (tested by Mr J. L. Tomlinson) are normal, and there is no nystagmus, no sensory or sensorial changes. Strong faradisation for two or three weeks has had no notable effect; suggestions as to treatment are solicited.

DR LEES AND MR BALLANCE. *Posterior-basic meningitis in a boy of three years, resulting in hydrocephalus, emaciation, and a comatose condition which has lasted for three weeks, during which he had not recognized his mother, and had required nasal feeding. Trehphining: drainage of*

*lateral ventricle by rubber tube into subarachnoid space for twenty-two days; cerebral hernia subsequently protected by insertion of a platinum plate. Complete recovery except for deaf-mutism.*

The operation was performed by Mr Ballance seven years ago (1898). The boy has remained in good health, and is being educated in a special school for deaf-mutes. He is now ten years old.

This is the successful case mentioned in the concluding words of the paper on "Simple Meningitis in Children," by Dr Lees and Sir T. Barlow, in the seventh volume of Allbutt's "System." The case has not previously been exhibited at any medical society.

**DR THOMAS BUZZARD. (a) Case of mesencephalic lesion.**

E. P., aged 35, spinster. Suffered from fatigue seven years ago. Same time loss of vision. Tremor four years. Five years diplopia. Dimness of vision increased during past year. No history of headache or vomiting. No sphincter trouble.

*Present condition:* Discs pale and atrophic. Pigmentation of choroid. Complete ophthalmoplegia internal and external. Pupils react to light, but not to accommodation. Teeth show well-marked trophic changes. Slight weakness of left face.

*Gait*—Tends to deviate to right. Well-marked tremor on movement confined to right side. Reflexes, sensory system and muscular system normal.

**(b) Case of muscular wasting with unusual symptoms.**

H. C., aged 45. June, 1904, aching pain in right leg. September, 1904, right foot began to drop. Later weakness of right knee. January, 1905, burning pain in left foot. March, 1905, weakness of left leg. Thighs have wasted since November, 1904. Same time fibrillation of thighs and buttocks noted.

*Present condition:* Congenital nystagmus. Marked fibrillation of upper extremity.

*Lower Extremity*—All movements of toes and ankles absent. Very slight flexion and extension of knee. Slight extension of thigh. All other movements absent. Muscles below knee do not react to faradism. React briskly to galvanism. No polar change. Ankle-jerks and plantar responses absent. All other reflexes present and normal. Sensory system normal.

**DR F. E. BATTEN. (a) Congenital affection of sixth, seventh and twelfth cranial nuclei.**

E. S., aged 9. First seen when 2½ years old, the condition having remained unaltered since that time.

The child has had facial paralysis since birth, and was never able to nurse. First child. Father and mother healthy.

*Present condition:* Intelligent child, with partial paralysis of both sides of the face, the right being more affected than the left. Complete paralysis of lateral movements of the eyes. Convergence good. Pupils equal. React well. Atrophy of the tongue, both sides. Knee-jerks active. Plantars flexor.

**(b) Case of tremor of right arm associated with epilepsy.**

R. C., girl, aged 20. Twitching of right hand first noticed in

April, 1904, and shortly after this patient had a fit in which she fell, but did not bite her tongue. No headache or vomiting.

The girl has quick, sudden contractions of the muscles of the right arm, which become more marked on intention movement. The power of the hand is good.

There is no sign of organic disease. The plantar reflexes are difficult to obtain. Epileptic fits occur at irregular periods—but are controlled by bromids. No improvement has taken place in the condition during the past twelve months.

(c) *Case of acute ataxia in a boy.*

The boy, aged 3½, had measles in March, 1904, and there was a family history of tuberculosis. Upon being got up he became dazed and then unconscious, and remained so for a week. He then had convulsions and tremors, and on regaining consciousness he could not sit up or speak. A month later he had marked incoordination of both legs and arms. There was no paralysis. The knee-jerks were well marked, with a tendency to ankle clonus. Plantars generally flexor. He swallowed well, and spoke in a low, hesitating manner. He has complained of pins and needles in his limbs. His mother complains that since his illness his moral sense has become much perverted. He was seen again in May, 1905, and marked improvement had taken place in his gait. Knee-jerks still active. Plantars flexor.

DR A. F. VOELCKER. (a) *Case of acute ataxy.*

D. F., aged 4¾ years, female.

This child was shown at a meeting of the Neurological Society on March 30, 1905, as an example of acute ataxy.

She was supposed to have had an attack of scarlet fever at Christmas, 1904, in which she became unconscious for 14 days; gradually regained consciousness, but has been unable to stand or feed herself since. Her speech was lost, but has gradually been returning. No vomiting during the initial illness.

On admission the child was unable to walk or even stand, and could hardly sit up alone in bed. Marked tremor of the head. When supported, her gait is very markedly ataxic; the toes are pointed down. At times progression is cross-legged. Some ataxy of upper limbs. Some tendency to fall backwards.

Marked muscular hypotonus. Plantar reflexes variable, frequently extensor on the left side. Knee-jerks brisk; no A. C. Speech slow, drawling and indistinct.

During May the child has improved somewhat, and makes very little effort to walk. The knee-jerks are less readily obtained. The ataxy of both lower and upper limbs is less, and the mental condition is improving.

(b) *Case of (?) disseminated sclerosis.*

M. C., aged 11, female. In June, 1903, she was noticed to be losing her power of walking, and to become weak in the arms and legs, and to have difficulty with her speech. This has been gradually getting worse.

Since January, 1905, she has been unable to walk or stand, and has been unable to feed herself. The impairment of speech has not

become more marked. There has been no vomiting, and only an occasional headache. She has, however, complained occasionally of pain in the lower part of the back and in the back of the neck. She has occasional attacks of vacancy.

Well nourished, skin pigmented. Upper central incisor notched. Spleen felt one and one-half inches below the costal margin. No scars or other evidences of congenital syphilis.

*Nervous system:* Fairly intelligent. At times emotional, at others apathetic.

**Speech—Slow, drawling.**

**Motor**—Can move all her limbs. Grip good. No muscular wasting. Marked intention tremor, especially in upper limbs.

**Gait**—Very unsteady. Can only stand and walk with support. Gait ataxic, but feet plantar in fairly regular series of positions. No cross-legged progression. Marked tremor of head when patient drinks. Voluntary movement increase tremor of the upper limb. No tremor during repose.

**Sensory**—Beyond a slightly prolonged latent period nothing abnormal detected.

**Cranial Nerves**—No optic neuritis or atrophy. No nystagmus. Pupils react to light and accommodation. No palate palsy.

**Reflexes**—Plantars variable, more often flexor than extensor, sometimes not obtained.

Knee-jerks distinctly increased. No patellar clonus. No true ankle clonus. Reflexes of upper limbs slightly exaggerated. Jaw-jerk not exaggerated. Sphincters natural.

**DR H. LEWIS JONES.** (a) *A case of paralysis of the upper extremity after a dislocation of the shoulder joint, in which the distribution of paralysis was unusual.*

The deltoid was almost unaffected and preserved normal reactions, but the biceps, brachialis anticus and supinator longus were completely paralyzed and showed a reaction of degeneration which is still present. Moreover, the clavicular portion of the pectoralis major preserved normal reactions, but the lower (sternal) part showed R. D.

(b) *A case of bilateral atrophy of the intrinsic muscles of the hands coming on in a young female patient.*

The wasting has persisted for many years. weak normal reaction present in the affected muscles.

**DR HENRY HEAD.** (a) *Case of myoclonus.*

W. G., aged 28. Nine years ago began to have "cramps" in the feet and hands. This was soon followed by tremors of the limbs, which have increased in violence, especially recently. The mother's brother is said to be in a similar condition.

He has had no fits. Always has been dull and has never done any work. He can stand and walk with difficulty. The elbows are flexed, forearms pronated, wrists flexed, and fingers extended. The legs are extended and somewhat rigid, the feet are inverted and pes cavus is greater on the right than left side. Coarse bilateral clonic movements at the rate of about 140 a minute are present in both arms, and

in a less degree in the lower extremities. These cease during sleep. Sensation is not affected. Both knee-jerks are present, and are equal on both sides. No nystagmus. Discs are normal. The tongue is tremulous. Sphincters are unaffected.

(b) *A case of Huntingdon's chorea.*

H. S., aged 38. A little more than 12 months ago he noticed that his legs began to tremble. About seven months ago his speech became affected. He is married and has four healthy children. His brothers and sisters and their children are healthy. No similar condition has appeared in any of his relatives except in his mother's sister who is now 83 years of age. At the age of 40 she is said to have begun to be restless, as he is now, and to have remained so until the present time.

He is a well-developed man, with no disease of the heart or lungs; the urine is unaffected. He speaks like a man who has difficulty in controlling his tongue; each word is begun with some difficulty, and some words are slurred, especially when he is in the presence of strangers. The tongue is extremely unsteady. Face, hands, and legs are in constant restless movement, which is said to cease during sleep. Chest-wall and diaphragm participate in these irregular movements. Tremor is absent. The knee-jerks are normal, and the toes go downward when the sole of the foot is stimulated. The pupils act normally, and micturition is not affected.

DR LEONARD GUTHRIE. *Acute ataxy (encephalitis cerebelli).*

Patient is a girl, aged seven years. In February, 1904, at the height of an attack of measles with temperature 103-104°, she developed cerebral symptoms, vomiting, convulsions, unconsciousness, followed by squint, retraction of head and photophobia. After five days all the acute symptoms subsided, but the patient was aphasic, seemed hyperesthetic, and rapidly wasted. The optic discs were normal. A month later she was still aphasic, could not sit up or move lower limbs, the knee-jerks were exaggerated, ankle clonus present, but no Babinski plantar reflex was obtained. There was marked incoordination of the upper limbs, and some athetoid movements of fingers. There was a general anesthesia to pin pricks, but she recognized hot and cold, and appeared to fear pinching. All limbs were slightly rigid. Sphincter control was lost for two months. Then general improvement occurred. By the end of May, 1904, she could stand with support, feed herself and talk.

*Present condition:* Healthy looking, well nourished child. Slow mentally, but not deficient. Disposition docile and gentle. Speech drawling and bleating in character. Special senses normal. Eyes and pupils normal. Slight ataxy and tremors of upper extremities. She can stand alone and steadily when eyes are closed, but cannot walk more than a few steps without guidance. If left alone she reels, turns half round and falls backwards or to one side or the other. Loss of equilibrium seems due to ataxy in placing the feet rather than to vertigo. Gait is ataxic. Knee-jerks brisk; ankle clonus present at times. Plantar response negative or flexor. Condition seems due to acute encephalitis affecting chiefly cerebellum or its peduncles.

DR WILFRED HARRIS. *Case of transverse sacral myelitis. (First sacral.)*

D. K., a Polish Jew, tailor, was seven years ago attacked suddenly by pain across sacral region, and convulsion of both legs for two hours. Since then the legs have always been weak, and his gait much as at present. Incontinence and precipitancy of both sphincters. Sphincter ani reflex good.

P. S.—Weak gait, no foot drop. Wasting of right gastrocnemius; and especially of the intrinsic foot muscles on both sides. There is well-marked R. D. in the short flexors of toes, and sluggishness of contraction in R. gastrocnemius to faradism.

Knee-jerks normal. Achilles-jerks both present.

Well-marked anesthesia on feet and back of calves and buttocks, perineum, and penis and scrotum, corresponding to the first sacral and lower segments.

I have given some little space to this able clinical demonstration, both to show the great wealth of neurological material to be found in London, and to call attention to the very practical ideas carried out by this celebrated body in their meetings.

At 1:00 p. m. the members and invited guests were treated to luncheon at the Russell Square Hotel.

Following the luncheon a few cases were shown by the Elder Buzzard, Beevor and Russell, after which there was a very able pathological and histological demonstration.

Dr Alexander Bruce gave a diagrammatic, photographic and lantern demonstration "On the Distribution of the Cells of the Intermedio Lateral Tract in the Dorso-Lumbar Region of the Spinal Cord." It was characterized by all of the mathematical accuracy of this great Scotsman. He believes this little known tract to be intimately associated with the sympathetic system.

This was followed by a Dr Mott, "On the Brain and Nervous System in Trypanosoma Infections, Including Sleeping Sickness, and the part played by the Diplo-Streptococci." He showed many beautifully colored drawings, and some lantern slides, illustrating his masterly communication.

Sir Victor Horsley and Dr Clark showed many specimens and lantern slides illustrating a very important contribution to our knowledge as to the course of the cortical fibers of the cerebellum, their relation with the nuclei and with the lobe of the opposite side.

Their conclusions are too lengthly to follow here, but I will shortly review their work which has been published in the Spring number of "Brain." It is indeed a notable work and shows the great skill and originality of the great Sir Victor, and will undoubtedly be the means of opening up new ideas as to the cerebellar tracts and their functions.

At 4:00 p. m. tea was served in the open Court of the Hospital, then the museum was visited, which had already been thronged with visitors from 10:00 a. m. It was a noble exhibit indeed. In this account it will be impossible to do justice to the many splendidly prepared and rare specimens.

Dr C. E. Beevor's exhibit of Injected Brains, showing in green,

red, blue and yellow, the exact Vascular Supply of the Anterior, Middle and Posterior Cerebral, and of the Anterior Choroid and Posterior Communicating Arteries. The brains were sectioned in three ways, and each section showed the exact limitation of the arterial supply with such nicety as to call forth the admiration of all. They were simply beautiful; even artistic in their colorings.

Dr E. Farquhar Buzzard exhibited a number of specimens showing the round cell infiltration of the muscles in Myasthenia Gravis.

Sir Victor Horsley had a great number of cerebellar tumors, "out-of-pickle" for our inspection.

Dr Batten showed a beautiful set of sections showing the changes met with in the subacute and chronic forms of combined system degeneration of the cord.

Dr Ormerod exhibited a series of sections showing perfectly the degenerations incident to Friedreich's Ataxia. They were from one of the cases that formed the basis of his Thesis which he published some years ago, upon "Developmental Cord Degeneration."

Space will not permit mention of the many noteworthy specimens exhibited by other members of the Society.

On closing I am reminded of the presentation of several patients from whom Sir Victor Horsley had removed cerebellar tumors, and the exhibition of a glass plate about ten inches square and ruled in half centimeter squares, which he uses to accurately measure the amount of incoordination of the arms both in the lateral as well as the mesial plane. I have forgotten to ask him if he is the originator of this simple, but most excellent method of measuring incoordination.

Very truly yours,

CHARLES J. ALDRICH, M. D.

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## Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

**Rectal Alimentation:** *The Therapeutic Gazette* for April, states that for generations it has been the habit of physicians to attempt to nourish patients by the rectal administration of nutritious substances, when, from any cause, the stomach is unable to receive food and digest or retain it. There can be no doubt that the function of the rectum is to act as a passageway between the sigmoid flexure and the anus, and further that it is not designed by nature for the absorption of materials, but rather for their excretion or elimination. It is evident, therefore, that we have no right to expect this part of the alimentary canal to absorb any considerable quantity of nutritious matter. If the nutritious material is not predigested, it is inconceivable that it can be absorbed at all, and even if predigested, the actual amount of food-stuff which passes through the mucous membrane, and enters the blood-vessels, must be very small indeed. In every instance in which such injections are employed, the patient must continue to live chiefly upon his or her own tissues or the stored-up food-stuffs which are in the body, in the shape of glycogen, fat, and proteids. The most that the patient receives is the

quantity of water or fluid which such injections may contain. That this method of providing the patient with nourishment is advantageous from the standpoint of the friends, goes without saying, but the important point for the practical physician is that he should not be misled into the belief that he is doing his patient great good, when as a matter of fact the amount of benefit which accrues is decidedly limited.

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**Potassium Iodid:** *The Monthly Cyclopedie* for May (from *Medical Record*) states that the method of administering potassium iodid should differ in accordance with the purpose for which it is given. For therapeutic purposes, potassium iodid should always be given in solution well diluted, and if possible never on an empty stomach. Milk is the best diluent, but compound syrup of sarsaparilla, mineral water, or ordinary pure water may be used. The drug must be pure, many bad effects being due to impurities. By observing strict cleanliness of the skin, disagreeable skin eruptions to a large degree may be prevented. Where accurate dosage is of importance, it is safer to prescribe a 50% solution, two drops to equal one grain of the drug. Potassium iodid should never be given in phthisis, or when there is even a suspicion or tendency to phthisis. In childhood it is best to give the drug very frequently in small doses, one-fourth of a grain every hour, rather than infrequently in large doses. A very convenient way is to dissolve the daily dose in 24 teaspoonfuls of water, and have the child take one teaspoonful every hour while awake, and two or three teaspoonfuls on awakening after a two or three hours sleep. In this way a six months old child may take as much as 15 or 30 grains in 24 hours, for a long time without inconvenience.

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**Cerebrospinal Meningitis:** N. B. Foster in the *American Journal of the Medical Sciences* for June, believes that in cerebrospinal meningitis there is no method or drug that has any apparent effect on the course of the disease. Efforts toward decreasing the suffering of the patient and preserving his strength is the most we can do at present. The patient should be isolated; the room should have free ventilation and be somewhat darkened. Restraint is nearly always necessary to prevent self-injury, and this is best effected by passing a folded sheet around the back of the neck, and under the arms anteriorly, the ends being tied to the sides of the bed. The ankles are thickly padded with cotton-wool, and bandages passed over this, and made fast to the bed. Of medicinal treatment the most important indication is for sedatives, and of these opium is doubtless the best. In some cases of extreme delirium, huge quantities of the drug may appear to produce no effect: bromids and chloral may be added to morphin, but his experience has been that there are cases in which the delirium and convulsive seizures cannot be controlled by drugs in doses within the bounds of safety. Under such circumstances a do-nothing policy is best. The delirium *per se* is not an indication for treatment of any sort, but the ceaseless activity that attends it is very wasteful of the patient's vitality.

Potassium iodid has been used largely in this disease, but he has never noted any influence on the course of the disease. He is convinced that lumbar puncture has a therapeutic, as well as diagnostic value. In all cases in which the symptoms have persisted for more than a few days, he is accustomed to perform lumbar puncture every two or three days. He has observed (1) lessening the delirium when delirium was present, (2) alleviation of headache, often to entire cessation, (3) awakening from a semicomatose condition to consciousness, and an ability to rationally answer questions. One lumbar puncture is not sufficient; the fluid slowly reaccumulates, marking the return of stupor and headache. It is a palliative means only, not a curative one.

**Gastric Ulcer:** Julius Friedenwald, in the *New York and Philadelphia Medical Journal*, believes that the rest treatment should always be instituted in all cases of ulcer of the stomach in order to attain, as far as possible, those conditions most favorable for rapid healing. The rest in bed, as well as the rigid diet, not only assist in the healing of the ulcer, but also in a measure guards against the onset of such accidents as perforation and hemorrhage. While this plan of treatment is usually recommended, it must not be forgotten that there are some objections to an exclusive milk diet extending over a number of weeks. Then there are a number of mild cases of ulcer of the stomach in which it is impossible to carry out the rest treatment. Under these conditions the ambulatory form of treatment may be undertaken according to one of three methods. In all cases the patient is permitted only to take liquid or semisolid food. (1) Nitrate of silver is prescribed in solution in one-sixth to one-third grain doses for a period of three weeks, or (2) bismuth subnitrate may be administered in large doses (one teaspoonful) three times a day. Fleiner recommends giving the bismuth suspended in water after previous lavage of the stomach. In those cases in which there is any contraindication to the use of the tube, Fleiner advises giving 10 grams of bismuth subnitrate suspended in a glass of water in the morning before breakfast; (3) the oil cure has been recently recommended by Cohnheim. Olive oil is taken three times daily from half to one hour before meals; in wineglassful doses in the morning and in dessertspoonful doses at noon and in the evening. In very mild cases an emulsion of sweet almonds may be substituted for the oil. The oil fulfills several indications. It forms a coating over the stomach, and this assists in the overcoming of pylorospasm, and by relieving friction it overcomes pain; it checks the excessive secretion of acid, and improves the general nutrition.

**Pneumonia in Children:** In *American Medicine* for May 27, Marion McH. Hull asserts that the treatment of lobar pneumonia of children differs but little from that in adults. The prognosis in lobar pneumonia of children is as good as that of bronchopneumonia is bad. Ordinarily she believes the disease cannot be shortened. The rational treatment seems to be (a) Prophylactic.

To prevent infection, and if infection has already taken place, to limit it, and the formation of more toxin by destroying as many of the infecting agents as possible. Creosote internally and by inhalation in vapor of steam succeeds in some instances if used early, and aided by counterirritation, catharsis, diuresis and diaphoresis. (b) Supportive. When the disease has developed, that is after the exudate has taken place, or during the stage of red hepatization, there is no power of aborting it. It is then a question of the patient's power of resistance of sustaining the child until the crisis is past, and convalescence is established. To aid in the fight, rest of mind and body, an abundance of fresh air and water, good nursing, proper food and stimulation, with proper care, directed to the emunctories, are the requisites in every case. (c) Symptomatic. In carrying out the general line indicated, symptoms must be treated as they arise. The pain of the first few days is best relieved by hot or cold applications. A mustard and flaxseed meal poultice kept on until the skin is reddened thoroughly, followed by hot cloths or the hot-water bag, often gives great relief. In other cases, the ice-bag or coil does better, while in some in which the cough is also very distressing, and aggravates the pain, we must resort to mild doses of codein. An occasional dose of calomel will stimulate the secretions, and often relieve a distressing tympany. It is most important to avoid overdoing in the treatment of this disease in children. Their recuperative powers are enormous, and if given a fair chance they will recover. Never do too much and avoid unnecessary interference.

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**Ichthyol:**

*The Medical News* for April 29th, quotes Menahem Hodara (*Monatssch. f. prakt. Dermat.*) as reporting several remarkable cures in mycosis fungoides by the use of ichthyöl. The drug was given 7½ to 15 minims daily for three or four months, and caused almost complete disappearance of the unsightly tumors. In addition the patient received ichthyol locally, and sodium cacodylate internally. It is true that in many instances this skin disease tends to disappear spontaneously, yet in one of the cases reported, the condition had continued unabated for five years, so that the cure must be ascribed to the ichthyol.

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**Fibrolysin:**

*Merck's Archives* for May, (from the *Therapeutic Monatssch.*) states that since Herbe introduced thiosinamin in treatment of lupus, many favorable reports of its use have been received, and the use of the drug has been gradually extended to other conditions, especially the absorption of scar tissues of the surface, and the interior of the body (fibrous strands, sclerosing endocarditis, pyloric stenosis, urethral stricture, etc.) One great difficulty has always been the method of administration, since thiosinamin is soluble in water only with great difficulty, and alcoholic solutions given hypodermically are as a rule very painful. F. Mendel has discovered that the combination of thiosinamin with sodium salicylate is easily soluble, and well adapted to replace thiosinamin. It may be used as hypodermic or intramuscular

injection, and may even be injected directly into the veins without danger of embolism. For the latter method, the needle of a sterile syringe is introduced into the vein at the bend of the elbow, and the entire contents of a tube are slowly injected. This amount will correspond to 0.2 grams (3 grains) of thiosinamin. Soon after the patients will experience a peculiar smell and taste, which is proof that the injection has been successful. The action of fibrolysin is often seen after a single injection. Fibrous strands will soon become soft and elastic, and superficial tuberculous lesions will begin to absorb. Good results are almost invariably seen in stenoses, stricture, ankyloses, cirrhosis, etc., provided the formation of fibrous tissue has not advanced too far. The number of injections necessary will vary from five to 50, given every day or every second day. No bad after effects have been noted.

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**Diabetic Coma:** The *Medical World* for June, calls attention to the fact that after coma has developed all practitioners know that the only hope of alleviation of the symptom lies in the free use of sodium carbonate (it is superior to sodium bicarbonate as frequently advised); but far from all practitioners know how to retard or prevent the development of coma. The slight benefits which accrue from the use of the carbonate make its remembrance of little worth: much more valuable would be a general knowledge of the most approved methods of retarding and preventing the development of the coma. The appearance of symptoms of intoxication (headache, asthma, etc.), or of appreciable quantities of acetone in the urine, immediately places the patient in the dangerous class, and coma will most certainly develop if the complications are not energetically combated. Two general lines of attack are open to the physician; the one is directed to the prevention of further formation of acidosis, and the oxidation of that already present, and the other is designed to deprive these substances present of their poisonous properties. The addition of starchy matters in moderation to the diet of a diabetic beginning to produce acetone, will generally result in the decrease or disappearance of the acetone. It often happens that this cannot be done because the stomach cannot deal with food. Here nearly the same result may be secured by dissolving one of the monosaccharids as levulose or dextrose in sterile salt solution and injecting it subcutaneously or intravenously. A quart of fluid containing 10% of dextrose may be used as an injection or 50 to 100 grams of levulose may be given by the mouth. If neither substance be available, glycerin may be given by the mouth. If fats have been freely given they should be cut down at once. The other line is the administration of large quantities of some alkali. Vichy water is generally selected, and it may be fortified by the addition of 20 to 30 grains of bicarbonate of soda every two or three hours. Thirty-five to 40 grams of carbonate of soda in a quart of water intravenously is highly commended by Stadelman and Naunyn. Whatever the diet at the time coma develops, the opposite must be employed. If the diet has been a proteid one, make it carbohydrate at once, and *vice versa*.

## Died

Dr Pascal H. Sawyer, June 26th, at St. Vincent's Hospital, Cleveland, in the 68th year of his age, following an operation for mastoiditis.

Dr Sawyer was born in Brimfield, Portage County, Ohio. He obtained a common school education, after which he entered the Medical College of the University of Michigan and later attended the Medical Department of Western Reserve University from which he obtained his degree.

In 1861 Dr Sawyer was married to Miss Caroline L. Barber, of Florence, Ohio, two years before he began the practice of medicine which continued for 42 years. In 1871 he moved to Cleveland taking up his residence in the East end and immediately obtained an enviable reputation as a general practitioner of medicine. He had the respect of his colleagues and the confidence of his patients. He became one of the most prominent members of the medical fraternity of Cleveland. For many years he was a member of the faculty of the Medical Department of Wooster University, now the Cleveland College of Physicians and Surgeons. Dr Sawyer well represented the sterling type of the general practitioner rapidly becoming extinct.

Surviving Dr Sawyer are the widow, Mrs Caroline L. Sawyer, and three sons, Dr John B. Sawyer, Harry B. and Raymond T. Sawyer.

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Dr Sydney Jones, only son of Dr J. D. Jones, of South Cleveland, died on July 12th, 1905, at Lakeside Hospital, Cleveland. The deceased was born 30 years ago at the present family residence, 1635 Harvard Street. He received his early education in the public schools, graduating from Central High School in the class of 1893. He entered Ohio Wesleyan University at Delaware, Ohio, and at the end of his first year changed to Adelbert College from which he graduated in 1897. After a partial course at Western Reserve Medical College, he entered the Medical Department of McGill University from which institution he was graduated. At the close of his collegiate work he went abroad pursuing special lines of research at Frankfort-on-the-Main, Strassburg, Vienna, Berlin, and finally in London where he received the degree M. R. C. S. from the Royal College of Surgeons. He entered practice in Cleveland early in 1905. In his short professional career Dr Jones gave promise of attaining high rank. Dr Jones was a member of the Cleveland Academy of Medicine, of the Ohio State Medical Association and the American Medical Association.

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DR P. H. SAWYER



## Book Reviews

**Gall-Stones and Their Surgical Treatment.** By B. G. A. Moynihan, M. S. (Lond.), F. R. C. S., Senior Assistant Surgeon to Leeds General Infirmary, England. Octavo volume of 386 pages, illustrated with text-cuts, some in colors, and nine colored insert plates. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Cloth, \$4.00 net.

The great and increasing importance of gall-bladder surgery makes the appearance of a book on this subject, by such an authority as Moynihan, very timely. The book contains the material upon which was based a course of lectures delivered at the Medical Graduate College in London, during 1904, and includes a detailed account of the etiology, pathology, clinical manifestations and operative treatment of gall-stones. A very satisfactory presentation of the anatomy of the gall-bladder and ducts is given in the first chapter, the text being profusely illustrated by excellent black and white drawings and colored plates. The chapters on symptoms and signs of gall-stone diseases are extremely full and complete and give many useful hints regarding special methods of examination and points of differential diagnosis. The author's method of operating is lucidly described as well as the important details of the technic of several other surgeons prominent in this field of work. It is gratifying to note the author's conservative stand in regard to cholecystectomy in view of the tendency of many surgeons to remove the gall-bladder for nearly every pathological condition connected therewith. For student, general practitioner and surgeon, the book may be recommended as an excellent treatise on the subject.

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**The Vermiform Appendix and Its Diseases.** By Howard A. Kelly, A. B., M. D., Professor of Gynecology in the Johns Hopkins University, Baltimore, and E. Hurdon, M. D., Assistant in Gynecology in the Johns Hopkins University, Baltimore. With 399 original illustrations, some in colors, and three lithographic plates. Philadelphia and London: W. B. Saunders & Company, 1905.

This book from the pen of Kelly and his assistant Hurdon and the pencils of four Johns Hopkins artists is by far the most important contribution to the subject that has yet appeared in the literature. The opening 50 pages are historical and trace in an interesting manner the growth of our knowledge of the affections of the appendix, their treatment from the first recorded case in 1759 down to the present time. In perusing this part of the volume we may well pride ourselves on the history of the splendid work American surgeons and physicians have done in placing this subject on an accurate and scientific basis. Following are about 150 pages on the anatomy of the appendix from the pen of Broedel, illustrated by the author himself and his wife. Here we find not only practically all of the almost innumerable anatomic variations of this region carefully described and depicted, but also an extensive description of its embryology and comparative anatomy. Broedel's work as an artist is sufficiently familiar to the profession to need no added comment, but one can scarcely refrain from expressing the satisfaction one derives from his exquisite drawings.

There is scarcely a clinical form, or a symptom, or a complication of this multiform disease which is not mentioned, and many unusual cases and interesting points connected therewith, not elsewhere published, have been obtained by personal communication from many prominent operators throughout the country. An extremely interesting and valuable chapter is that on appendicitis in children. The possibility of this affection in childhood and even in infancy is considerably greater than is recognized by most practitioners, and this fact, added to the great difficulties of diagnosis in childhood, should make us especially watchful to rule appendicitis out in any doubtful cases. No physician should hesitate to give an anesthetic if necessary to clear up the diagnosis in an obscure abdominal case in a child.

The treatment of appendicitis in general is handled in an excellent manner and the opinions expressed are those of the most eminent American surgeons of today. It is needless to say that the policy of delay for medical treatment after the diagnosis is made finds here little encouragement.

The publisher's part of the book has been unusually well done and the illustrations have never been surpassed in any medical book with which we are familiar. The policy of widely spacing the letters instead of using italics, while certainly calling particular attention to the part desired, to our mind makes a rather difficult text to read.

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Practical Pediatrics. A Manual of the Medical and Surgical Diseases of Infancy and Childhood. By Dr E. Graetzer, Editor of the "Centralblatt für Kinderheilkunde" and the "Excerpta Medica." Authorized translation, with numerous Additions and Notes, by Herman B. Sheffield, M. D., Instructor in Diseases of Children, and Attending Pediatrician (O. P. D.), New York Post-Graduate Medical School and Hospital; Visiting Pediatrician to the Metropolitan Hospital and Dispensary, etc. Pages XII-544. Crown Octavo. Flexible Cloth, Round Corners. Price, \$3.00 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

This volume is one of the most satisfactory and comprehensive text-books of this character which we know. Intended originally to serve as a small work of reference, the author has succeeded in bringing together all the important data on the subject, in such a way that the work is really more than a simple volume of reference. The American translator and editor has added to the text wherever it seemed necessary to adapt the work to American and English readers. The volume is divided into two parts, part one being devoted to the general discussion of the diseases incident to early infancy and childhood and is a very clear presentation of the subject with sufficient emphasis on all the important points. Part two is devoted to the *materia medica* and *therapeutics* of childhood and is a valuable addition to a work of this character, indeed, we are not familiar with a similar arrangement in any other text-book devoted to pediatrics. In the description of treatment in the main text, the author names the drugs which may be used, adding in parenthesis a note referring to the drug in that part of the text devoted to the usages of the drugs themselves. By reference then to the particular drug in the section on *materia medica* and *therapeutics*, we find its various uses

and doses and methods of exhibition fully explained. This is a volume which every student should possess and could profitably become thoroughly familiar with. A very complete index concludes the volume.

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Diseases of the Liver, Gall-Bladder and Bile-Ducts. By H. D. Rolleston, A. M., M. D. (Cantab.), F. R. C. P., Physician to St. George's Hospital, London; formerly Examiner in Medicine at the University of Durham, England. Octavo volume of 794 pages, fully illustrated, including seven colored insert plates. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Cloth, \$6.00 net.

The author of this work, already widely known for his investigations upon the clinical and pathological conditions incident to the diseases of the liver and gall-bladder, has brought together and presented in a masterly way, in a compass of a single volume, all that is known and that is of value concerning the anatomy, physiology, etiology, symptomatology, pathology and treatment of the liver and its associated organs.

For many years the French observers have, perhaps, occupied the first place in the field of literature and research devoted to this subject, and every student, in order to get at the original sources of a large amount of valuable work, has had to turn to the French or German writers in addition to contemporary English and American investigators. In this work we are brought directly into touch with all the important literature in a way that can hardly be surpassed for breadth of view and clearness of expression.

The volume opens with a description of the possible anatomical abnormalities, then takes up the description of some of the important post-mortem appearances of the liver, followed by a short chapter on acquired deformities, displaced liver and hepatoptosis. In the brief descriptions of the functional diseases of the liver, the author presents the pith of a large number of suggestive facts and interesting theories dealing with the physiology of this somewhat obscure organ; and in no other single description have we ever found so clear a statement of this somewhat confused topic, and throughout this volume the reader is constantly impressed by the simple and lucid description. Dr Rolleston shows on every page an exhaustive knowledge of the subject, based not alone upon results of his own researches, but upon a thorough knowledge of the literature.

The subject of the diseases of the liver and its adnexa is considered from every conceivable standpoint, and this volume must be accorded a place second to none in the field of English literature. It is a work which every medical man, physician or surgeon should own, not only as an illustration of what an ideal text-book should be, but as an illuminating guide to make possible a grasp of the subject in a way that the student has hitherto been denied.

In a work of such length it is difficult to single out any one chapter as of special merit; two sections, however, that appeal especially to the reviewer are those upon cirrhosis and cholelithiasis. The typography, press work and mechanical make-up of the volume are all that the publisher's imprint implies.

## Medical News

The Trumbull County Medical Society met July 7. Charles B. Parker, of Cleveland, spoke upon "Radical Treatment of Hernia."

A. P. Ohlmacher has been appointed Director of the Biologic Laboratories of Frederick Stearns & Co., of Detroit, Mich., and has entered upon the active duties of the position.

The Northwestern Ohio Homeopathic Association has held its annual election with the following results: President, N. R. Simmons, Toledo; first vicepresident, Sarah Davies, Toledo; second vice-president, J. Richie Horner, Cleveland; secretary, F. C. Crawford, Toledo; treasurer, Emma Buttman, Toledo.

The twenty-eighth annual meeting of the American Microscopical Society was held at Cedar Point. The officers are as follows: President, Simeon H. Gage, Cornell University; first vicepresident, A. M. Holmes, Denver, Colo.; second vicepresident, H. A. Webster, Ohio State University; secretary, R. H. Walcott, University of Nebraska; treasurer, J. C. Smith, New Orleans; executive committee, N. J. Elred, University of Montana; B. H. Ranson, Washington; Herbert Osborn, Ohio State University.

The regular meeting of the Stark County Medical Society was held on the afternoon of July 18. The following program was given: Lecture, "Neurasthenia and Hysteria," H. C. Eyman, of Massillon; discussion, "Death," L. B. Santee, Marlboro; reports of cases, "Improperly Reduced and Neglected Dislocations of the Wrist Joint," O. C. Ricksecker; "Rheumatism," L. E. Flickinger, Canton; "Ovarian Tumor," E. O. McIlravy; "Magnolia," report of Morris Smith, of Massillon. E. O. Morrow, of Canton, president, and Dr Da Hinden, secretary.

The Columbiana County Medical Society held a very interesting meeting July 11. Well known physicians from different parts of the county were present and all pronounced the meeting a profitable one. J. E. Toot, of East Liverpool, made an interesting address on "Hypertrophy Pharyngeal Tonsil." His remarks were appreciated by the physicians, he having given the subject careful consideration. Dr Holland, of Wellsville, spoke on "Cerebrospinal Meningitis." He had the subject well prepared and gave the physicians much information concerning the disease. All present took part in the discussion of the topics.

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## Born

Bahrenburg.—At the U. S. Quarantine Station, Delaware Breakwater, near Lewes, Delaware, on Wednesday, July 5, 1905, to Dr L. P. H. Bahrenburg, U. S. Public Health and Marine Hospital Service, and Mrs. Bahrenburg, a son.

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## Deaths

J. T. Edwards, of West Carlisle, died at his home July 2.

Dr Francisco, the oldest of Port Clinton's practitioners, died at his home recently.

W. C. Jacobs, one of the most prominent physicians and surgeons of Akron, died July 8.

# The Cleveland Medical Journal

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## On the Immediate Mortality in Abdominal Section, Based on a Personal Experience in 2,000 Cases

BY G. W. CRILE, M. D., CLEVELAND

The cases embraced in these tables do not include any of those of my associates or former assistants, and have been performed by myself. They have been compiled by Mr Harding from the volumes of clinical records, and include all abdominal sections performed in private houses as well as in hospitals.

At St. Alexis Hospital, where more than one-half of these were performed, there are no surgical specialties, and my own practice has always included all the surgical fields of the abdomen on equal terms. A glance at these tables will indicate the proportion of the various pathologic processes demanding operation upon the various organs and tissues of the abdomen.

### GASTRO-INTESTINAL

	Cases	Deaths	%	Cause of Death
Appendicitis .....	748	29	3.87%	Infection 27. Pneumonia 1. Hemorrhage 1.
Stomach and intestines—				Shock 2. Embolism 1. Infection 1.
Penetrating wounds ....	5	4	80 %	
Stomach—Tumor of .....	29	8	27.58%	Exhaustion 5. Infection 2. Embolism 1.
Intestines—Tumor of ....	13	1	7.69%	Shock and Infection .
Gastric and duodenal ulcer.	21	2	9.52%	Hemorrhage and Shock 1. Vicious Circle and Infection 1.
Gastric and intestinal ulcer,				
perforating .....	2	1	50 %	Infection.
Typhoid perforation .....	13	11	84.61%	Infection and Typhoid 8. Infection 1. Infection and Shock 1. Typhoid 1.
Intestinal obstruction .....	45	15	33.33%	Infection 10. Exhaustion 2. Infection and Shock 3.
Cyst of pancreas .....	2	1	50 %	Secondary Hemorrhage.
Rectum—Carcinoma of ....	8	0		
Rectum—Benign tumor ...	2	0		
Rectum—Prolapse .....	1	0		
Rectum—Stricture .....	5	0		
	894	72	.08½%	

## GENITO-URINARY TRACT

	Cases	Deaths	Cause of Death
Genito-urinary fistulae . . . . .	6	1	16 2/3% Infection.
Tumor of bladder . . . . .	2	0	0
Vesical calculi . . . . .	16	0	0
Rupture of bladder . . . . .	3	0	0
Floating kidney . . . . .	41	0	0
Tumor of kidney . . . . .	12	2	16 2/3% Infection and exhaustion.
Pyonephrosis . . . . .	11	0	0
Tuberculosis of kidney . . . . .	7	0	0
Pyelonephrosis . . . . .	2	0	0
Hydronephrosis . . . . .	3	0	0
Renal calculi . . . . .	18	0	0
	121	3	2.4%

## LIVER AND GALL-BLADDER

	Cases	Deaths	Cause of Death
Liver abscess . . . . .	5	1	20 % Infection.
Subphrenic abscess . . . . .	1	0	0
Liver—Crush of . . . . .	1	1	100 % Infection.
Liver—Tumor of . . . . .	10	1	10 % Exhaustion.
Cholelithiasis . . . . .	79	5	6.20% 1 Renal incompetency. 1 Exhaustion. 1 Infection. 1 Pneumonia. 1 Pancreatitis.
Cholecystitis . . . . .	27	2	7.40% 2 Infection and exhaustion.
Malig'nt tumor gall-bladder	6	1	16.66% Exhaustion.
Cyst of gall-bladder . . . . .	1	0	0
Fistula of gall-bladder,P.O.	1	0	0
Stricture of cystic duct . . . . .	1	0	0
	130	11	6.1 %

## PELVIC ORGANS

	Cases	Deaths	Cause of Death
Pelvic infection and abscess	20	5	25 %
Cyst of broad ligament . . .	20	0	0
Displacement of uterus . . . .	73	0	0
Pelvic hernia . . . . .	23	0	0
Uterus: tumors, malignant..	69	1	1.44%
Uterus: tumors, benign.....	120	1	8.3 % Exsanguinated—Shock.
Tuberculosis of tubes . . . .	10	0	0
Ectopic pregnancy . . . . .	22	1	4.5 %
Cesarean section . . . . .	5	1	20 % Infection at time of operation.
Hysterectomies:			
Miscellaneous . . . . .	18	0	0
Hydrosalpinx . . . . .	2	0	0
Ovarian tumor: benign . . .	154	2	1.29% 1 Hemorrhage and shock. 1 Thrombosis mesenteric artery.
Ovarian tumor: malignant..	8	2	25 % 1 Exhaustion. 1 Exhaustion and Shock.
Ovarian inflammation . . . .	12	0	0
Pelvic peritonitis . . . . .	36	4	11.11% 4 Infection.
Pyosalpinx . . . . .	167	1	5.98% 1 Infection
	759	18	2.37%

## ABDOMINAL WALL

	Cases	Deaths	Cause of Death
Ventral hernia . . . . .	45	1	2.22% 1 Infection. (32 of these were post-operative, 12 umbilical.)
Tumors of abdominal wall. . . . .	2	0	
	47	1	2.12%

## MISCELLANEOUS

	Cases	Deaths	Cause of Death.
Laparotomies, various . . . . .	30	0	0
Tuberculosis of omentum.. . . . .	1	1	100. % Infection.
Tuberculous peritonitis . . . . .	27	3	11.11% 2 Infection. 1 Exhaustion.
Tumor of omentum . . . . .	7	1	14.28% Shock.
	65	5	7.69%

	Infective		Non-Infective		Malignant	
	Cases	Mortality	Cases	Mortality	Cases	Mortality
Genito-urinary . . . . .	12	8 %	100	0%	9	22 %
Pelvic organs . . . . .	190	7.3 %	490	.4%	77	3.8%
Gastro-intestinal . . . . .	474	12.6 %	370	.5%	51	19.6%
Abdominal wall . . . . .	1	100 %	46	0%	0	0 %
Liver and gall-bladder	58	13.7 %	72	1.3%	16	12.5%
Miscellaneous . . . . .	28	15 %	30	0%	7	14.2%
Total . . . . .	763	11.6 %	1108	.4%	160	11.25%

## MORTALITY RATES

	Cases	Deaths	
Gastro-intestinal . . . . .	894	72	8.05%
Liver and gall-bladder . . . . .	130	11	8.3 %
Genito-urinary . . . . .	121	3	2.5 %
Pelvic organs . . . . .	751	13	1.7 %
Abdominal wall . . . . .	47	1	1 %
Miscellaneous . . . . .	65	5	7.6 %
	2008	105	5.2 %

## CAUSES OF DEATH

	Cases
Infection . . . . .	74
Exhaustion . . . . .	12
Shock and Infection . . . . .	10
Embolism and Thrombosis . . . . .	4
Pneumonia . . . . .	4
Renal Incompetency . . . . .	1
Total . . . . .	105

In making up these tables I have made a special study of each case that terminated fatally. In reviewing these, several facts impress themselves strongly. The first is that the large proportion of deaths are due to infection. This does not mean infection following operation in a clean field, but it means that the cases of acute appendicitis, of general peritonitis, of ruptured gall-bladder, of perforation of the stomach, of the intestines, of acute infection following miscarriages and abortions, etc., have

gone past medical treatment and surgical operation was performed with the hope of controlling or arresting the process. In the treatment of the acute infections the principal advance has been along the line of what not to do. We have been disappointed in the use of antistreptococcus serum, in the use of saline catharsis, in secondary operations, in heavy stimulation, etc. It is not, however, intended in this paper to discuss treatment.

In 12 cases death was due to exhaustion. These were principally cases of inoperable malignant tumors, in some only cocaine incision was made and the inoperability of the tumor established. Several cases, too, of long continued exhausting infection with multiple abscesses died of exhaustion. The larger number of the 12 cases in this list occurred in the early years before we realized the great importance of not permitting an inoperable case to remain in the recumbent posture during the repair of the wound. There were no cases of death from shock *per se* but there were 10 in which the infection existing at the time of the operation, and its continuation together with the shock of the operation caused death.

Emboli and thrombosis were fatal in four cases, three of pulmonary embolism, and one involving the mesenteric artery. The latter case was supposed to have died of obstruction of the bowels. At autopsy it was found that embolism was the cause of death, the obstruction being secondary.

In four instances pneumonia caused death, in two of which, although not proven, we felt quite certain septic emboli were the exciting cause. The other two were bronchopneumonia, vaguely termed ether pneumonia.

In one case death was due to complete suppression of urine.

It will be noted that obstruction of the bowels is not mentioned as having in a single instance caused death. While I have seen a number of times in the cases of acute peritonitis, complete obstruction of the bowels, postmortem examination showed distinctly that the obstruction was a sequence of either infection or thrombosis, and in not a single instance have we been able to establish obstruction of the bowels *per se* as a cause of death.

The table indicating the relative risks in the infective, the non-infective and the malignant cases seems to me to be important in helping us to place abdominal section on a still safer basis. Of this entire list, 736 were operated for relief from infection, that is to say, were infective cases. Of these the mortality rate was 11%. Of this number, however, it will be seen that the

greatest risk lies in visceral perforation, typhoid perforation, gastric duodenal ulcer, and gunshot wounds. In 160 malignant tumors treated surgically the risk was 11%. Of this list the larger number of deaths occurred in the early group of cases and were due to two principal factors. I was unable at that time to discriminate so well the risks and I did not appreciate the great importance of not permitting these patients to remain in the recumbent posture during healing of the wound. The real technical test of abdominal surgery is to be found in the group of non-infective cases. Of these, there were 1108 with five deaths, or 4/10% risk. It is safe to say that in spite of the size of the tumor or the extent of the dissection in well selected cases, one death in 200 in the non-infective group may continue to be realized. That is to say, on the great average the infective and malignant cases have twenty times greater surgical risk than the non-infective.

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## Report of a Case of Traumatic Asphyxia

BY DR R. H. BIRGE, CLEVELAND

In April, 1904, Beach and Cobb reviewed the literature of traumatic asphyxia, finding but six cases reported, to which they added one of their own. The rarity of this affection then, as well as the hope that some profitable discussion may be provoked regarding the physiology of its production, are deemed sufficient excuse for presenting the report of the writer's case. The number of cases which have recovered, cases which have been studied in life, is very small. The report of the writer's case is as follows:

On April 19th, 1904, the patient, a large muscular man, 36 years old, was helping push a small flat car loaded with about eight or 10 tons of steel rods along a railroad track. In some way the car was overturned, precipitating its contents upon our patient and pinning him down against the sharp edge of a wooden platform. Being nearby at the time of the accident, the writer reached the patient within a minute of the time he was hurt. When I arrived on the spot, his comrades were just extricating our patient from beneath the pile of rods, and I was immediately struck by the rapidly changing appearance of the man's face which was becoming a bluish black. His eyes protruded, there was a slight flow of blood from his nose and mouth and he was unconscious for a few minutes after being released. He was immediately carried to the Mill Hospital where examina-

tion showed the following condition: Especially well-developed and nourished, perfectly conscious, but dull and sluggish, in a state of moderate shock, pulse 90, regular, fairly good volume and strength, respiration 30, shallow, with a groan at the beginning of each expiration. There was a distinct dislocation forward of the first lumbar on the last dorsal vertebra with paralysis, motor and sensory, below that point. Above the point of the dislocation there were a number of deep burns over the back from the hot rods. There was no evidence of injury above this point. The striking feature of the case, however, was the condition of the man's skin. From the level of the nipples, upward over the neck and face and into the scalp, the skin presented a dusky, bluish, mottled appearance. This color became only slightly paler if pressed with the finger, and when the pressure was removed it slowly regained its former tint. At first it was thought that the patient was cyanotic, and artificial respiration was administered, with the result that the patient breathed deeper and slower, but the appearance of the skin became worse. As the color was not universal over the whole body, and as it did not disappear on pressing the skin, and as it persisted even after the patient's general condition improved, it was evident that cynaosis was not the cause. Examined more closely it could be seen that uniformly distributed all over the dusky skin were minute (.5 to 1 mm.) areas of natural skin tint, each surrounded by a poorly defined bluish border, these borders uniting in a mesh-work. This condition extended over the red edge of the lips and on the mucous membrane of the mouth to a slight degree and also down both arms to the hands. In the eyes there was a considerable subconjunctival hemorrhage, homogeneously distributed over the sclera with some exophthalmos, producing a very peculiar appearance with the normal iris surrounded by the extremely red bulging sclera. This condition of the man's skin persisted for about three days and then gradually disappeared, although it was fully four weeks before the skin resumed its normal appearance and about two months before the eyes looked normal. There was no disturbance of vision. The color in the skin did not go through the usual changes of extravasated blood, blue-purple-yellow, etc., but gradually the normal areas of skin became larger and larger until the blue points had disappeared. There was slight bloody expectoration for a few days with numerous coarse râles throughout the lungs; no blood in the urine, very slight trace of albumin. The patient made an uninterrupted recovery, and eight months later was back at work.

The gross cause of this unusual clinical picture is admitted to be forcible compression of the chest, extending over some minutes accompanied by entire cessation of respiration. Up to the time of Beach and Cobb's report one year ago, knowledge of the pathology had been obtained only from postmortem findings

in fatal cases. It has long been noted that this peculiar discoloration of the face was seen not infrequently in individuals pressed to death in struggling crowds or mobs. Ollivier and others have reported postmortem findings in such cases, but aside from the appearance of the face and eyes, no specially characteristic pathologic lesions were found. In all cases it was noted that the blood was black, fluid, and filled all the veins running into the heart; that punctate hemorrhages occurred into the loose tissues of the scalp, on the surfaces of the pleura and pericardium and the heart and abdominal viscera; that is to say the usual findings in fatal cases of suffocation from whatever cause.

The minute cause of the discoloration has been the subject of the greatest interest; this, as well as the reasons for its sharp limitations, have not been definitely determined. In the seven reported cases there was only one in which the discolored skin extended below the level of the clavicle. In Beach and Cobb's case there was a peculiar marking out of the double triangle of the trapezius muscle at the back of the neck, that is to say that there was none of the bluish-black discoloration of the skin except within the confines of this muscle. The question of special interest is the cause of the discoloration and the reason for its limitation practically to the regions of the face and neck. One finds that in reading over the reports of all but two of the recorded cases that the words hemorrhage, petechia, ecchymosis, extravasations and effusions are used by those reporting the cases, to describe the general cause of the discoloration as well as its appearance. Is the discoloration caused by hemorrhages into the tissues or by venous stasis?

The work and conclusions of Heuter are reported by Braun. "Heuter experimented on a rabbit. He made marked and continual abdominal pressure, or struck the abdomen a sharp blow. The vessels in the ear dilated and the surface of the brain protruded through a trephine hole, but there was no extravasation of blood. After section of the splanchni in frogs, he obtained dilatation of the vessels under the skin, but no extravasation. Heuter concludes that the discoloration is probably due to stasis of blood from mechanical causes: (1) The sudden upward pressure of blood dilates the vessels of the face; (2) Pressure on the sympathetic nerves of the abdomen and thorax leads to a paralysis of the vessel walls."

Willers concluded "that it is not determined whether it is due to stasis or hemorrhage, but he prefers the mechanical theory

of Heuter; that the blood is found only in the face he thinks is due to the lack of valves in the facial veins. He also thinks that these cases are oftener seen in the young, who have more numerous skin capillaries than the old, in whom, besides being less in number, they are less elastic, and in whom such injury most often results in death." It is to be noted, however, that the ages of the reported cases, including the writer's, are as follows: three cases were boys about 15 years of age, all the others were young adults between 22 and 36 years old.

Perthes is of the opinion that the cause of the discoloration is extravasation of blood, either minute or more extensive subcutaneous hemorrhages, or effusions. He concludes that, following severe contusion with compression of the thorax, marked effusion of blood can occur in the head and its neighboring tissues without there being any injury to the head itself. This is caused by the transmission of the increased intrathoracic pressure into the veins of the head and neck; its limitation to this area he explains by the absence of functioning valves, there being less competent valves in the jugular vein than in any of those on the surface of the body. He states "that there are no valves throughout the whole course of the internal jugular and innominate veins, except a pair of valves at the entrance of the jugular into the innominate, and that it is well known that these valves are irregular and incapable of resisting the back pressure of an injection mass starting at the vena cava. The same is true of the external jugular. This vein possesses usually two inefficient pairs of valves, the first of which is the most constant, and is placed where the vein enters the subclavian. The second pair is midway up the neck. Poirier: "These valves are no hindrance to the backward transmission of pressure into the veins of the head; and this also explains the limitations of the hemorrhages to this region, since one can easily inject the veins of the head from the cava, but almost never those of the axillary supply, so we find ecchymoses and effusions of blood only where valves are absent or insufficient."

Burrell and Crandon conclude that, while there may be true hemorrhages into the skin, the facts that the color fades somewhat on pressure, and that the color does not go through the changes of tint usual in an absorbing hemorrhage, favor the idea that the discoloration is due largely to a stasis of carbonized blood in temporarily paralyzed and dilated capillaries.

Beach and Cobb were fortunate enough to obtain their

patients' consent to excise two pieces of skin from a dark area and these were examined by Dr Wright, of the Massachusetts General Hospital. Numerous sections were studied and every section showed normal skin; there were no signs of blood in the tissues outside the blood vessels. Apparently then this microscopic study proves definitely that the theories, that the discoloration is due to any extent to hemorrhages, are wrong.

As to the cause of the sharp limitation of the color to the head and neck, the writer has nothing new to offer, but is inclined to consider rational the theory of Perthes, which ascribes it to the lack of valves in the jugular and facial veins, as outlined above. The practical conclusions to be drawn from these cases are few in number and should be sufficiently obvious. It is idle to speculate on how many of the fatal cases might have recovered, could artificial respiration have been begun immediately after the release of the individual from the compression. From the very nature of the injury and its attending circumstances, surgical aid can rarely be on the spot except as a coincidence. It is rational to suppose, however, that the immediate use of artificial respiration and oxygen and possibly adrenalin might resuscitate certain of such cases could it be applied at once. The secondary treatment, aside from combating shock, must be symptomatic.

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## The Significance of Pathologic Elements in the Urine with a Description of the Best Methods of Ascertaining their Source

BY WILLIAM E. LOWER, M. D., CLEVELAND

I have selected for this paper a subject which I believe is of much importance, and while I may have little that is new to offer it may not be amiss to emphasize some of the more salient features of what I believe is a much neglected subject; neglect caused, no doubt, by the lax way in which this subject has been taught. Derangements of the genito-urinary tract, unless grave symptoms appear, are lightly passed by. This system certainly deserves as much consideration as the pulmonary or the circulatory, yet how few practitioners give it anything like the attention these other systems receive.

Modesty on the part of the patient and indifference on the

part of the practitioner are other factors. Many physicians cannot separate the physical from the moral in diseases of the genital organs. What should it concern us as to the manner of the infection except in so far as it relates to the treatment?

A knowledge of the physiologic changes in the urine at various times and under various conditions is essential before a correct pathologic interpretation can be made. The subject is too broad for a detailed description in this paper, and I shall simply mention some of the conditions that influence the changes, and go more into detail in others.

*As to the amount of urine excreted in 24 hours:* This is very variable under normal conditions. From 1200 to 1500 cc. is considered the average for an adult male; yet 700 cc., as low, and 1800 cc., as high, may not be pathologic.

The physiologic conditions that may produce a small amount of urine are the activity of the sweat glands and the amount of liquids ingested. A person perspiring freely on a hot day will naturally excrete a less amount of urine; and the smaller the amount of liquids and liquid foods taken, the less will be the amount of urine; conversely, when the sweat glands are inactive on a cold day, and when a large amount of liquid (beer if you please) or liquid foods are taken, the amount of urine will be strikingly increased. However, when the amount is large or small and cannot be explained by this physiologic process, the pathologic conditions must be sought.

What are some of the pathologic conditions that produce a small amount of urine? A pathologic diminution of the amount of urine generally means a disorganization of the renal epithelium or the secreting mechanism of the kidney. This often occurs in some of the infectious diseases and especially in scarlet fever. Parenchymatous or tubular nephritis is the local lesion that is generally responsible for the small secretion of urine, but other causes may also produce it. Anything that reduces the blood-pressure will diminish the amount of urinary secretion, and especially the local blood-pressure. This is strikingly true of adrenalin chlorid.

A pathologically increased amount of urine is produced by anything that increases the blood-pressure in the kidney. An increase is found in interstitial nephritis when the structural changes in the tubules are, for a long time at least, comparatively circumscribed. Hence, the increase in blood-pressure associated

with hypertrophy of the heart may be considered responsible for the exaggerated renal secretion.

In diabetes mellitus the quantity of urine is greatly increased, perhaps because of the increase of urea in some cases, urea acting as a diuretic.

*As to the color of urine:* This is as variable as the amount of urine and is governed by some of the same influences. When the urinary secretion is small, the color will be deep. When a large amount is voided it will naturally be lighter. Under certain conditions, however, the color may be significant and be an important aid in diagnosis. The color of the urine in jaundice is due to obstruction of the common bile duct. The color is also influenced by certain drugs and certain forms of bacteria. The ingestion of methylen blue will produce a characteristic color of the urine, and when this is being administered the patient should always be apprised of the color change that will take place in the urine, and thus often much embarrassment, for both patient and physician, will be prevented. Santonin gives the urine a beautiful yellowish green. The bacillus pyocyaneus will cause the urine to appear green, and this must be borne in mind in cases of infection, as it may be diagnostic. A number of cases have been reported. Recently I saw a specimen of urine that was almost grassy green, and for some time the cause could not be ascertained, but later it was learned that the boy had been eating candy bananas. These contained some coloring matter which produced the change in the appearance of the urine. The doctor who had the specimen experimented upon himself and was able to reproduce it by eating candy bananas. Very dark urine generally means blood, but black urine may be associated with melanotic sarcoma and is very important as a means of prognosis in recurrence of melanotic growths of the viscera. This has been recently gone over by Garrod in the *London Practitioner*.

*The odor of urine:* This varies from that of sweet-brier to the foul odor of decomposition. Many of the odors taken with the food or drink or absorbed by the skin or respiratory tract are eliminated by the kidneys. This, as I have shown elsewhere, was one of the earlier means of diagnosis of kidney lesions. The length of time required for the elimination of the odor of asparagus determined the permeability of the kidneys. The change in the odor of the urine is at once recognized by the old prostatics. The foul smelling urine of ammoniacal decomposition is always interpreted by them as the precursor of evil, and

upon the appearance of this, and this only, do many of them seek medical advice. Occasionally the odor determines the kind of infection. A colon bacillus infection often produces the characteristic foul odor of this bacillus.

*The specific gravity:* This varies greatly physiologically. A small amount of concentrated urine has a higher specific gravity than a large amount of dilute urine, but when these changes cannot be explained on a physiologic basis they are often indications of a serious trouble. A low pathologic specific gravity generally means albumin and some form of nephritis; while a high specific gravity suggests diabetes.

*The reaction of the urine:* This changes with the diet. While normally urine is acid in reaction, alkalinity does not mean disease. A meal rich in fruit or vegetables may render the urine alkaline. However, in pathologic conditions the reaction of the urine has some significance. Infected urine with an acid reaction suggests the kidneys as the origin and the tubercle bacillus as the probable cause, but this is not always true.

The importance of the presence of albumin, and of the urea elimination is still *sub judice*. I think there can be scarcely any doubt that the presence of serum-albumin, however small in amount, in the urine, is pathologic. It may, however, not be associated with any observable symptoms and so far as we are able to know it may in no way cause any disturbance. That it often is followed later by certain pathologic changes of serious moment, I think is equally true.

There are forms of albuminuria spoken of as transitory or cyclic which follow certain nervous influences, exposures, exertion, diet, position, etc., which are not caused by any lesions of the kidneys. As to urea elimination, it is so variable, depending so much upon the diet, the nitrogen intake, exercise, etc., that little value can be placed upon it as determining the functioning capacity of the kidneys, unless all the factors governing it are carefully considered. To do this makes a very complicated procedure.

There has recently been introduced a new method of testing kidney functions, which I believe is far superior and much simpler than some of the older ones. I refer to cryoscopy or the freezing of the urine. Its distinct advantage is that it is influenced by all the products excreted in the urine, and I think it has been satisfactorily proven that other products besides urea and the chlorides must be considered. A recent case showing a continu-

ous low urea elimination gave a fairly good freezing point and upon this alone was operation based and the after results showed conclusively the merits of this method, for there were no unfavorable symptoms following. Had we depended upon the urea elimination the operation would not have been done. Cryoscopy depends upon the number of molecules; the specific gravity upon the size of the molecules.

Normal urine freezes at about one degree below the freezing point of distilled water. This, however, may vary with the amount of liquids taken, but the specimen from each kidney should freeze at the same point or at least very nearly the same. If there is much difference in the freezing point of the two sides we must rightly infer that there is something wrong with one or the other kidney. If the patient has been given large quantities of liquids and a previous test has been made the diseased kidney will be the one showing the least amount of change from the control. Blood normally freezes at .55 to .57 below zero. If the solids are not being eliminated the urine will freeze higher and the blood lower; therefore, a high freezing point of urine, say .50 or less, and a corresponding lowering of the freezing point of the blood, say .60 or lower, means, according to Kummel, serious kidney impairment and operation is contraindicated. Later experiments prove that the freezing of the blood is less reliable than was originally supposed.

*As to the sediment:* Perfectly normal urine if allowed to stand uncovered for a length of time will show a sediment. This cloudy deposit (or nubecula of older writers) consists of mucus together with a few leucocytes and epithelial cells from the urinary passages, amorphous phosphates, etc. This sediment also contains bacteria of various kinds but principally the bacillus ureæ. It also contains one thing that we rarely find. It contains gold, and this discovery was made by the charlatans. The quack discovered that from the sediment, gold, often in great bulk, could be extracted. The method is simple enough. Through the free distribution of alarming literature the unsuspecting public are taught to test their kidneys. The test consists in urinating in a glass, standing it aside over night, and in the morning, if a sediment appears in the glass, it is a sure sign of kidney trouble. Of course the sediment appears and from that time on the process of gold extraction is easy. In many cases the nature of the sediment may be surmised from its microscopic appearance; as *e. g.*, the purulent sediment of cystitis, the white phosphatic sediment,

the brick-dust and the granular or sandy sediment of uric acid. Before the advent of the microscope the medical men became very expert in determining the nature of the sediment by the appearance of it, but now the microscope determines its true nature and the general appearance of the sediment has little or no value except as being strikingly suggestive. It might, however, be well to know something of the appearance of the more common sediments, and we must not entirely neglect what Virchow calls the naked eye pathology. The classification of Rieder, I think, is the best and is well worth studying.

We will consider now the most important part of this subject, the sediment itself, and from this we must determine the clinical significance. We will divide this into the organized and the unorganized constituents. In the former are the cells and their products; in the latter the crystalline or non-crystalline products. The latter generally occur in normal urine. The presence of the former usually means disease, or, as Rieder puts it, "There are few unorganized sediments which may not be found in healthy urines, and that it is more their quantity than their actual presence which, in certain cases, indicates disease. With regard to the organized products on the contrary, many, by their presence alone, indicate the existence of definite morbid changes (more especially in connection with the genito-urinary organs). Their study is, therefore, of the highest importance for purposes of diagnosis."

Of the unorganized sediments I will simply make mention of the principal ones. Of the calcium salts, are the calcium carbonate, calcium oxalate and calcium sulphate, and only when they occur in excess may they be indicative of some disturbance of metabolism. Of the phosphates may be mentioned the amorphous earthy phosphates and ammonio-magnesium phosphate (triple phosphate). They are deposited from alkaline or neutral urines. The deposit may sometimes be mistaken for pus, but it is readily differentiated by being dissolved by acetic acid. Uric acid and the urates occur in acid urines and generally in times of great concentration; as in the urine in summer after profuse sweating, or after a diet rich in proteid food when insufficient exercise is taken. When these occur in excess they may indicate the uric acid diathesis so commonly spoken of. The urates are generally readily dissolved by heat. They form a brick-dust sediment on standing.

Of the organized elements, epithelium is perhaps the most

commonly observed and will receive first consideration. Histologically, it should be comparatively easy to denote from which part of the genito-urinary tract a given epithelium is derived; but pathologically it is not so easy and requires much clinical and microscopical experience, and even then can often only approximately be determined. However, the epithelium from the kidney, the pelvis, and the ureters can generally be distinguished by their form, being usually cubical or round, somewhat larger than leucocytes and possessing large, well defined nuclei. While the epithelium from the bladder is generally of the squamous variety, of larger dimensions, the protoplasm has a cloudy and granular appearance and contains one, two, or more nuclei, in which are often seen nucleoli. While it is interesting to know the exact source of the epithelium, it is perhaps more important to know the cause of the desquamation of this epithelium. Epithelial exfoliation being generally secondary to some form of infection, it is to this infection we must give attention.

Pus in the urine should always be considered an important symptom and often a grave one, no matter how the infection has been introduced, whether by the circulation or through the urethra. A patient with pus in the urine is deserving of more attention than a dose of urotropin or an allied drug of the so-called urinary antiseptics. No systemic line of treatment can be inaugurated until the source is discovered, and if this cannot be done, he should at least have the benefit of all the means for so doing at our command. In most, if not in all, cases this is possible.

Beginning with the urethra the two glass test will generally make clear whether the pus is from the anterior or posterior urethra and bladder. If from the bladder, and in the male, a washing of the bladder until the solution comes away clear, then massage of the prostate and seminal vesicles will show whether or not these structures are the probable source. If not, then we must look further. This is as far as we formerly could go, but with the advent of the cystoscope and the catheterizing cystoscope we can first examine the bladder and if the source is not found here, proceed further and catheterize the separate ureters and examine the separate specimens. In this way we trace almost the entire system. Of the various causes producing the pus we have the various pyogenic bacteria beginning with the gonococci and ending with that dreaded of all, tubercle bacilli. And it is on this particular one that I desire to dwell especially.

Suter says every case of spontaneous catarrh of the bladder in a subject between 20 and 40 should suggest the possibility of tuberculosis of the kidney as the primary affection. I recall only too well a case of single tuberculous kidney that gave only slight bladder symptoms with a small amount of pus in the urine. I made a cystoscopic examination and found a bladder mildly congested at the base, but I did not examine the urine for tubercle bacilli nor did I catheterize the ureters. The case left the hospital, passed from my observation and a few weeks ago I was asked if I cared to make a postmortem on the patient, who had died of some pulmonary complication. Imagine my chagrin when the pathologist presented me with a single tuberculous kidney. I make it a rule when the cause of the pus cannot be clearly ascertained and when the specimen does not show tubercle bacilli, to inoculate a guinea pig and in that way to clear up the possibility of tuberculosis. Just recently I demonstrated tuberculosis in a case in which I could not find the tubercle bacilli in the urine, but did produce it in a guinea pig. Later I found the bacilli in the urine. It is extremely difficult and requires much patience to find tubercle bacilli in the urine, but when found they are conclusive, and, if from a single kidney, the prognosis is good after nephrectomy.

Next in importance to pus in the urine is blood. It is distinctly a pathologic element in the urine but does not always denote a grave lesion. If the blood comes from the urethra it is generally bright red and escapes from the meatus, and the two glass test will demonstrate it. It may follow any traumatism to the urethra and occasionally occurs in severe inflammations of the canal.

Beyond the urethra the cystoscope is the greatest aid in diagnosing the source of bleeding. Sixty to eighty percent of all bladder tumors bleed at some time in their development. Other causes besides tumors and traumatism producing hemorrhage are foreign bodies in the bladder, tuberculosis of bladder or kidney and certain stages of nephritis. Hemorrhages occur with purpura, variola, etc. A few weeks ago I saw a case of hematuria in a boy who was convalescing from typhoid fever, the post-typhoidal hemorrhage that sometimes occurs. Whether this comes from some ulceration of the bladder or from higher, I do not know. I did not make a cystoscopic examination, but in about one week the bleeding ceased. Typhoid bacilli were found in the urine.

Less known and more difficult to explain are the hematurias of women during pregnancy. Kraus succeeded in transmitting a truly hemolyzing substance from the mother to the foetus. It is noteworthy that this predisposing hemorrhage is absolutely localized to the kidney tissue, as is shown by Guthrie's observations as follows: "A family consisted of four children, two sisters and two brothers. The latter exhibited nothing abnormal. The two sisters had from time to time profuse hemorrhages which existed for several days and disappeared suddenly. They appeared from no apparent cause or from trifling ones, such as a cold, an insignificant angioma or petty irritations. Both married; one has seven, the other three children. Nine of these children show the same hematurias as their mothers, of the same character, same profuseness and spontaneous cessation without any significant cause. No trace of hemophiliac characteristics, never had epistaxis or hematemesis and had perfectly normal menses." This is certainly a striking demonstration of an hereditary disposition to bleed from the kidney. Turpentine may produce it and in not a few cases urotropin has been responsible for the hemorrhage.

There is another class of so-called neuropathic hemorrhages, in which there occurs bleeding only at times of great nervousness. The pathology of this has not yet been worked out. Many of these belong to the class of vicarious hemorrhages and are often termed physiologic. These are principally the vicarious hemorrhages of the menses and are evidenced by epistaxis, petechia, hematemesis and hematuria.

Be the cause what it may it should, if possible, be ascertained, and it can only be done by a systematic investigation and examination. I have not gone into the physical signs and symptoms in any of the subjects and have purposely omitted treatment, for I propose to consider that at another time.

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## Is the X-Ray Treatment of Skin Diseases a "Passing Fad"?

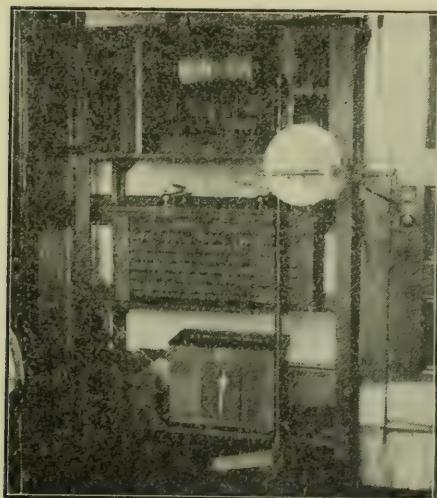
BY W. L. LEFEVRE, M. D., CLEVELAND

Before a therapeutic agent has entirely weathered its period of trial, the question naturally arises is it a "passing fad"? That the medical profession are over eager to test the value of any therapeutic agent that suggests success is well known, especially by the profession itself, and annually thousands of dollars are

expended, often with fruitless results, in our eagerness to add one more round to that already long ladder, that reaches from the comparative darkness of the past, to the light of modern methods, and which will surely, though perhaps slowly, extend to the noon-day brightness of the ages to come. The numerous experiments with radium furnish the latest example of energy, time and money spent in the endeavor to add to our phototherapy. About two years ago it was believed that an agent had been found that would surpass all others in treating skin affections by light. So great was the demand for this precious substance, or so greatly did the demand exceed the supply, that, within two years the price was advanced from \$5.00 to \$100.00 a milligramme. Radium, however, has not met our expectations and while some good results have been obtained, it has proven inferior to the X-ray and some other forms of light energy. Already it has passed the zenith of its experimental stage, in fact in the use of radium we have a "passing fad."

Is the X-ray destined to share radium's fate, or has it stood the test of time long enough to place it among those remedies that have been tried and found true? Certainly with the X-ray many disappointments have occurred. Perhaps too much was expected of it when there was found some virtue in its rays. Experiments were pushed along all lines. Deep seated diseases were treated as well as all kinds of skin diseases. Most of the primary work was done upon malignant growths. Here, as might be expected, the results obtained were good, bad and indifferent. In fact in these cases the results are still the same. Everything depends upon the nature of the growth, the condition of the patient at the time he comes under observation, as well as upon the method of applying the light. Gradually the technic has assumed a more rational level among X-ray workers. Much has been written about "high" and "low" tubes, distance of the patient from the tube and length of exposure. Several appliances have been invented for measuring the intensity of the light but these are not very practical in therapeutic work. The best indicator is the skin of the patient under treatment. The skin of some people reacts to the light much quicker than that of others, so a definite standard can not be laid down for every case. The operator must be familiar with his machine and with his tubes and learn to use good judgment in the quality of the ray desired in each case. The length of time of each exposure depends upon the quality of the light and the distance of the exposed part

from the tube. The nearer the tube to the exposed part the shorter the exposure should be. When treating a small lesion the tube can be placed within a few inches of the skin, but with larger surfaces the tube must be farther away so as to equalize the effect upon all portions. In therapeutic work the tube should be at least six or eight feet from the coil, so the operator can be behind the tube, out of focus of the rays. The wires leading to the tube from the coil should be heavy, insulated, electric light wire, with a fine copper wire hook upon the end to attach to the tube. This fine wire will not allow too much current to enter the tube. A simple shield can be used back of the tube to protect the operator, as shown in the picture (round



No. 1



No. 2

white shield). This is composed of two thin circular pieces of wood with a sheet of lead between (when made in this manner it will not warp). This can be fastened on the tube holder.

I should like to warn operators against the use of a brass shield surrounding the tube as shown in photo No. 2. When using a heavy Gunderlach tube the current is liable to short circuit through the glass to the metal cathode and thus puncture the tube. This accident happened with me and now I rely entirely upon sheet lead to protect the patient, and find it very satisfactory. If the skin is covered with towels where the lead would touch, there will be no pricking sensation, and if the patient is not touched when the machine is in operation, no trouble will be experienced.

As to the frequency of the treatments there is no fixed rule. In most skin diseases I treat them three times a week, but where the nature of the case demands speedy relief, the treatments can

be given every day until results are obtained or until the resulting erythema warns us that cessation is necessary. Fortunately the skin is a safe indicator in these cases and always gives ample warning, so there is little or no danger of producing a burn if the operator is experienced. In the majority of my eczema cases I have found it unnecessary to produce even a redness, two or three treatments a week are sufficient and usually the disease disappears before the erythema appears.

I would like to report a few cases of typical eczema with photos showing the condition before and after treatment. All these were treated exclusively with the X-ray, no salves, lotions or internal treatment being used. Some of these patients have remained well for nearly two years, so the results obtained may be said to be permanent. My results in treating eczema have been extremely gratifying and when circumstances permit I always use the X-ray in this disease. The chronic forms seem especially susceptible to this form of light and I have never seen a case that was not benefited.



Case I: Before Treatment



Case I: After Treatment

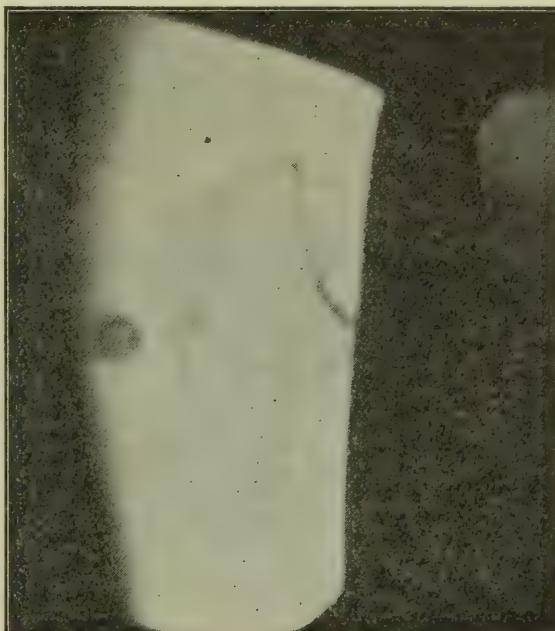
Case I: Miss R., aged 22 years. Seborrheic eczema of about two years standing on the back of the neck. She had also some lesions in the scalp, especially upon one side over the ear. Seven X-ray treatments of five minutes each were given three times a week. The skin cleared up perfectly and there has been no return in seven months. The scalp was treated with resorcin lotion and improved, but was not cured.

Case II: Mrs L., aged 62. In this case the photo shows the condition as I first saw her. The eczema was of seven years duration and was quite itchy, so much so that it caused her to loose sleep and she could not refrain from scratching it. She lived out of the city and intended being here only one week when I first saw her. I told her that I could not promise much in such a short time, but she could continue the treatment under the care of some local physician when she returned home. Under the circumstances, I treated her every day for six days, beginning with five minutes and working up to ten minutes for a treatment. By the end of the week there was some erythema and the patch had faded away decidedly. She returned to her home in Vermont and I heard from her in a month, when she reported that the condition had continued to improve, so much so that she had not continued the treatment. At the end of the second month she reported the condition practically well, and I heard from her a short time ago that it was entirely cured, it being then about fifteen months since she was treated. I was unable to get a second picture of this interesting case.

Case III: Doctor O., age 33. A chronic eczema of one forearm and also of both corners of the mouth. He received five X-ray treatments of five minutes each during two weeks time. The skin in this case was very sensitive so that a slight dermatitis was produced, but when this subsided the disease had gone and has not returned to date.

Case IV: Doctor H., age 31. Almost the same as Case III. A chronic eczema of six years standing. Never entirely well but much worse in the winter. He received six X-ray treatments during the coldest part of February, 1904. The disease entirely disappeared and has not recurred. Another patch appeared upon the side of the hand last winter and that was also cured with six X-ray treatments.

Case V: Mr S., age 38. This interesting case (although not an eczema) I wish also to report with two pictures. This man, a railroad brakeman, received a slight injury upon the



Case II: Before Treatment

shoulder from slipping off the ladder of a box car. At the time he did not pay much attention to it, but in a few days he noticed a little sore like a pimple. This rapidly grew worse and began to spread, when he consulted the company's doctor who used antiseptics of different kinds, but the disease continued to grow worse. After four months he referred him to me and from a microscopical examination and cultures grown, a diagnosis of blastomycetic dermatitis was made. I began treating him with the X-ray and at once the disease stopped spreading. He received 21 treatments, three a week, of 15 minutes each.



Case V: Before Treatment



Case V: After Treatment

At the end of that time the disease had almost cleared up, and he was given a rest of six weeks. There were then four spots left on the border of what had been the worst places. After receiving 21 more treatments they disappeared and he is now entirely well. The second picture shows the condition a short time before he ceased treating. An interesting feature of this case is that, from scratching, he infected himself at another point, but this soon subsided under the X-ray.

To those who have not followed such cases and personally observed the results obtained, this report may sound over enthusiastic, but many X-ray workers have been equally successful and I think nearly all agree that the X-ray is as near a specific in this class of cases as we could hope to have. In some other skin diseases the results have been very disappointing, but in a number of conditions the cures obtained have been remarkable and in some nothing short of marvelous. So I hope for the X-ray a long life of usefulness and unless, perchance, some new light be added to our armamentarium that will outshine those in existence. I believe the X-ray will grow in favor and not be a "passing fad."

# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
{ THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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## EDITORIAL

### Ascending Currents in Mucous Canals

This subject has been recently investigated by C. J. Bond and forms the subject of his address in Surgery, delivered before the British Medical Association.

The fact that lycopodium spores, if injected into the rectum, will find their way up the bowel, even to the stomach, has been known for some time. Bond has carried out a series of experiments upon various mucous tubes, using particles of indigo or carmine. He finds that these are frequently carried in a direction the reverse of that in which the usual contents of the tube pass and that this occurs both in normal and especially in certain abnormal conditions.

After a colotomy operation, if a suppository containing powdered indigo be inserted in the rectum, the pigment will pass upward, and within 24 hours will have passed above the sigmoid, and after a period of three days will have reached the cecum. The presence of a stricture of the rectum, unless it be absolutely impervious, does not prevent this upward passage nor does the

downward passage of feces interfere with it, in fact the administration of purgatives, with the resulting increase of peristalsis and downward movement of the fecal contents, seems to aid the upward current carrying the pigment. This same action occurs, but rather more slowly, in the absence of any fistulous opening. It does not occur in the dead bowel nor do the particles seem to be carried by phagocytic action of leucocytes. The particles of pigment, being insoluble in the intestinal juices, can be seen microscopically to be in the same condition as when they were introduced, they are not deposited in a crystalline form as would probably be the case if they had been first dissolved and later redeposited in a new situation. The inference seems to be that while there is a central current of fluid or semisolid feces passing downward or even if the bowel happen to be empty, there exists a peripheral upward mucous current carrying small particles with it, and that while this occurs in the normal bowel, it is especially marked if a fistulous opening exist in the large intestine.

As regards the female genitalia, experiments were carried out in a number of patients with diseased adnexa. At varying periods up to 20 hours before operation small quantities of indigo or carmine were placed upon, or just within, the external os uteri. In 18 out of 22 cases subsequent microscopic examination showed the presence of the pigment either within the tubes or upon the peritoneum surrounding the fimbriated end of the tube and covering the mesosalpinx. This was noticed several times in cases with bilateral pyosalpinx and it is therefore highly probable that in most of these there exists some communication, even if small, between the interior of the tube and the uterine cavity. The presence of free blood in Douglas' pouch, sometimes seen at operation, in the absence of other definite cause, may be ascribed to backward flow of menstrual blood from the uterus.

Following a cholecystostomy if indigo be given by the mouth, particles will soon begin to pass out through the fistula. Upon close examination the greater part of these will be found upon the wall of the gall-bladder while there is very little in the fluid bile. Here too the question occurs, was not this indigo first absorbed by the intestine and later separated by the liver? The evidence does not seem to support this view. The more likely explanation being that it passed up through the common and cystic ducts in the form of small particles. The possibility of a similar migration of small particles of food should also be considered, and Bond claims that upon microscopic examination of

the discharge from biliary fistulae, he has often seen fragments resembling cellulose and vegetable fibre. Whether this passage of particles into the gall-bladder occur in healthy human subjects is, as yet, not clearly proven, but after feeding a normal guinea pig for several days with indigo, although the fluid bile in the gall-bladder contain no particles, a scraping of the mucosa showed numerous bright blue granules of indigo, while the peritoneal and muscular coats were entirely free from it.

The ascending ureteral infections are very suggestive of an upward current along these tubes. An opportunity to test the intact ureter did not present itself but in a case of lumbar nephrectomy for cystic destruction of the kidney, due to an impacted calculus in the lower end of the ureter, after the removal of the kidney, vesical injections of small quantities of iodoform emulsion containing indigo were given and particles of the latter were subsequently found on the dressing at the upper ureteral opening in the loin. In two cases of suprapubic cystotomy, in which no urine passed through the urethra and in which no instruments were introduced into this canal, indigo was inserted just within the meatus and particles of it soon reached the bladder.

In like manner experiments were made upon other mucous tracts, such as upon the eustachian tube in a case of perforated tympanum and upon the milk ducts of the breast. In one case of mammary carcinoma, for six days previous to the removal of the breast, indigo was applied to the nipple and grains of it were found in the deeper parts of the gland after its removal.

He considers that it is proven "that by some means or other, and under certain conditions, particles of an insoluble substance, such as indigo, inserted into the orifices of a mucous canal, or duct, are conveyed along the mucous channel in a reverse direction to that taken by the contents of the tube, or by the secretion or excretion of the glands along such ducts. The conditions which seem to favor this passage are: some interference with the normal flow of the contents of the mucous tube or duct, or some arrest or diversion of secretion, such as is produced by a fistulous opening, though it is by no means necessary that this should be complete."

As to the agency through which this is effected, ciliary action cannot account for it, as many of these mucous ducts are not provided with ciliated epithelium. Muscular contraction may aid it, the peculiar fact being that increased peristalsis in the downward direction seems to aid the upward current also.

The essential conditions, then, seem to be a living tube, whose walls are partially, if not wholly, in apposition, and lined by a mucous secretion; while the reversal of this mucous current is favored by any condition (such as fistula) which leads to arrest or diversion of the ordinary secretion of the viscus or gland.

The importance of this question upon the spread of infection through these channels is evident. The rapid ascent of the gonococcus along the urethra and through the uterus and fallopian tubes may be thus explained, and possibly the ascending infections of the kidney may be due to a similar action. The subject opens up a large field for research and may be the means of greatly increasing our knowledge of infective processes.

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### The Yellow Fever Epidemic

The importance of this matter has been recognized by the Federal Government and in response to an appeal by the State of Louisiana, the Public Health and Marine Hospital Service, with Dr J. H. White in command, has taken charge of the campaign. They are, of course, acting on the belief that the stegomyia fasciata is the causative agent in the spread of the disease and no efforts are being spared in exterminating these mosquitoes. The success of that devoted band of men in driving the dread disease from Cuba was so conclusive that there seems to be no other view in the manner of infection tenable, and the suppression of the present epidemic will prove this question beyond the possibility of doubt.

The problem is, however, no easy one, due in part to the fact that many of the cases occur in ignorant foreigners who dread being removed from among their friends to hospitals, and, therefore, instead of reporting such cases, they do their utmost to conceal them from the authorities, thus favoring the spread of the disease. The obvious necessity of preventing the increase of the mosquitoes through such measures as screening and oiling all cisterns and all other places where they are liable to breed seems to have been disregarded by many of the inhabitants. Notwithstanding explicit orders from the authorities to the inhabitants to do this work, many people failed to obey; the fining of a number of them, including many rich and influential people, will probably impress upon the population the necessity for concerted action by all parties. Many cases are still being

reported daily but such an epidemic cannot be arrested in a day. The authorities feel, however, that they have the situation fairly well in hand and predict a speedy arrest of the outbreak.

We in the North are apt to regard the whole matter with a good deal of unconcern, but it is well known that New York and some other Northern States have had disastrous epidemics. Owing to the careful inspection of passenger traffic to the south of us it is extremely improbable that Ohio will see any cases of yellow fever.

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### School Nursing in Cleveland

The System of School Nursing, patterned after the scheme which has proven so successful in New York City, was given a trial in Cleveland during the last month of the past school year. One of the nurses of the Visiting Nurses Association was assigned five of the down-town schools, Mayflower, Harmon, Brownell, Eagle and Rockwell, each of which she visited daily and supplemented the work of the inspecting physician by treating, under his direction at the school, cases of minor ailments, for which, as a general rule, children have previously been excluded from school.

It is immediately evident how great a good this plan accomplishes. First and most important, the children *get treatment*. In the past when a child was excluded for some minor communicable skin affection with an explanatory note to the parents, it has often happened that the note was never delivered, and the child became a truant, or the parents were too poor or indifferent to see that proper measures were taken. In this way the work of the School Inspector became valueless as far as that child went. With daily treatment in school by the nurse, however, sure and rapid results are obtained. Secondly, the child is not deprived of the opportunity of being in school while treatment is going on.

Beside her work in the school the nurse has also visited the homes of children, where the cause of the disease often exists. By instructing ignorant parents in the more simple laws of hygiene, school treatment, which might otherwise be useless, becomes effective. The nurse from May 20th to June 10th gave 793 treatments in the five schools she visited, and made 267 visits to homes. Her work has commended itself most highly to the officials of the Board of Education and the Board of Health. We understand, however, that more pressing needs will prevent the

introduction of the School Nursing System into the Cleveland Schools during the next school year. This we consider a great pity, as we have had opportunity to see enough of the work to realize its great practical value. We sincerely trust that an appropriation will soon be available so that the scheme may be put into active operation in all the Cleveland Schools.

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### Changes in the Pharmacopeia

The attention of the profession should be called to the recent action of the committee on revision of the United States Pharmacopeia. Some important changes have been made in the strength of some of the preparations, in order to conform to the standards adopted by the International Conference on Potent Remedies, held at Brussels, in 1902.

The tincture of aconite has been reduced from 35% to 10%, that of tincture of veratrum from 40% to 10%, while the strength of tincture of strophanthus is now 10% instead of 5%. Until such time as the new standard becomes generally adopted, it would behoove every practitioner prescribing these preparations to indicate clearly the strength of the tincture desired. The science of medicine is uniform throughout the civilized world and yet we find a great variation in the preparations of the same drugs in different countries. The action of the International Conference in attempting to render more uniform the various preparations is therefore a step in the right direction.

Such a radical change as the adoption of a single pharmacopeia for the whole world would hardly be possible for years, but so long as the potent remedies are standardized the possibility of harm will be considerably lessened.

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### Meat Inspectors for Cleveland

During the past month the appointment of eight additional meat inspectors has wonderfully increased the efficiency of the City Health Department in securing for Cleveland a healthful meat supply.

In March last, one chief and four assistant inspectors were appointed, so that now the Health Office has 13 men for this work, under the leadership of Dr C. W. Eddy, V. S. Every abattoir is now under careful supervision, whereas formerly but one concern

voluntarily employed government inspectors. The result of this was that meat condemned in other cities was frequently shipped here and sold and although the Health Officer did what he could to prevent this, his hands were tied by the insufficient means and men at his disposal, and it was therefore manifestly impossible to inspect all the meat supply of a city of this size.

The dairies are also to be closely inspected and this will undoubtedly lead to a marked improvement in the milk supply, a matter of the highest importance, as it is generally conceded that the high infant mortality in the summer months is largely due to impure milk. What is possible in this line is shown by the high standard of the milk supplied by the Canfield Dairy, which has fulfilled the requirements of the Milk Commission of the City of Cleveland.

Great progress has been made in the efficiency of the new Health Office, which now has 43 men upon the sanitary police force. Cleveland has been remarkably free from disease for some time past and every effort must be made to strengthen the hands of the authorities, so that any epidemic can be nipped in the bud.

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### The Graduate Nurses Association

This Association represents the best interests of the nursing profession. Among its members are nearly all those holding responsible positions in the various training schools. Its principal object is to raise the standard of training and to endeavor to render more uniform the standards required for graduation. They have also established a central registry for nurses, a waiting list is always in readiness and the registrar is prepared at all times to respond to the calls of physicians. Not only are members of the Association found upon the roll, but any nurse with due qualifications will be inscribed. Every nurse before being accepted by the Registration Committee must give good references and proof that she has graduated from some recognized hospital. If the physician expresses a preference for any particular nurse, the registrar will endeavor to secure her services. The attention of the profession is directed toward this enterprise as it has already proved of great service to the physicians in facilitating the engagement of competent nurses.

## Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

### Pneumonia:

H. A. Hare, in the *Therapeutic Gazette* for June, divides, from a therapeutic standpoint, all cases of pneumonia into three classes. First, those in which no treatment can be of value, for though the lesion in the lung may be small, the system is, from the start, overwhelmed by a profound toxemia. Second, those cases which can only recover if they receive intelligent aid and support at critical periods, and third, there is another class which not only get well without treatment, but not infrequently in spite of it. These are the cases which make us feel like saying, "Give the patient a chance," and which remind us of the extraordinary bacteriolytic power of the blood. He also divides the cases into those with small lesions in the lungs, and marked toxemia, and those with large lesions in the lungs and large toxemia. In the toxemic class he believes that therapeutic measures cannot promise much, unless it be that by maintaining activity of the kidneys and liver through the action of alkaline and hepatic stimulants, we may eliminate or destroy poisons. Occasionally, too, these cases seem to be benefited by hypodermoclysis, if used in moderate quantity, and very occasionally good results may follow bleeding and hypodermoclysis, or the intravenous injection of normal saline solution. The cardiac stimulants which seem to do most good in the toxemic cases are Hoffman's anodyne or the aromatic spirits of ammonia. Digitalis is, he thinks, rarely valuable at such a time. Strychnin, he is convinced, is much abused, and should be reserved for critical periods, and he deprecates the custom of giving it in full doses every three or four hours day after day, as it deprives the physician of the whip he may need should a crisis arise. As to the use of nitroglycerine, it is not really a true circulatory stimulant, and should not be given when the heart disorder is dependent upon vascular relaxation. When the skin is hot and dry, the kidneys inactive, and the tension high, it, or sweet spirits of nitre, similar in action, are often valuable drugs.

### Apomorphin:

W. C. Abott, in *Merck's Archives* for March, states that apomorphin is the only emetic we possess for hypodermic use, and is of value in cases in which quick, safe and sure emesis, with the minimum of nausea, is necessary. Its chief advantage therefore is in cases of narcotic poisoning, in which lethal doses have been taken, and here the administration of apomorphin is often a life-saver, while the same is true in cases of attempted suicide. The dose, as a prompt emetic in emergency cases, is usually  $1/10$  of a grain injected hypodermically. In severe spasm, even in children, it has given good results, and in that form of hysteria, without any apparent lesion, a hypodermic of apomorphin will work a marvelous and salutary change in a reasonably speedy and benign manner. Apomorphin is not only a valuable emetic, but is also a most efficient expectorant in small doses,  $1/67$  grain, frequently repeated. It is the remedy with dryness and deficient secretion.

**Chronic Diarrhea:** In *American Medicine* for June, Reynold Webb Wilcox mentions the improper methods of treatment of chronic diarrhea. Opium, as only admissible when the alimentary canal has been thoroughly emptied, to check excessive peristalsis. It should be given hypodermically, as morphin, in substantial doses, and not repeated. A prescription for opium or any of its preparations or alkaloids, should never be entrusted to patients of the nervous class. There is too great danger of habit formation. Astringents, as experience has taught us, when introduced into the alimentary canal do not astringe; they are even likely to irritate. The tannin preparations are sometimes useful in precisely the same way that they are useful as antidotes in alkaloidal poisoning by temporarily inhibiting the action of bacteria and their toxins. Inasmuch as bismuth naphtholate, bismuth tribromophenolate, and similar bismuth compounds are more effective, there is little reason for the use of the tannic acid compounds.

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**Hypodermoclysis:** W. Page McIntosh, in the *New York and Philadelphia Medical Journal* for June 10, has been using recently instead of the so-called normal physiologic salt solution, which has a strength of 0.6 of one percent, a 0.9 of one percent solution which has the same freezing temperature as the blood. If the solution is too concentrated, the red cells shrink; if too dilute, they first swell and later part with their hemoglobin. The 0.9 percent seems to be about the proper strength to use. The physiologic effect of hypodermoclysis (probably) is to stimulate the ductless glands, causing an increase of the internal secretions. The clinical effects are to raise the blood-pressure and to strengthen and regulate the pulse. Diuresis is increased; the mind becomes clearer, sleep is promoted, the appetite is improved, the patient is encouraged, and there is a feeling of well-being. His personal experience with the solution has been in hemorrhage, shock, uremia, puerperal eclampsia, typhoid fever, pneumonia and anemia. In these cases it often saves life and always does good. In poisoning from illuminating gas, ether and opium, this procedure is highly recommended, as it dilutes the poison and favors elimination. In diseases attended with great loss of body fluids, such as cholera, cholera infantum, enterocolitis the remedy is of great service. It is also one of our best remedies in septicemia. It is recommended in diabetic coma, restoring consciousness and prolonging life. Hypodermoclysis is not a remedy for everything. The surgeon should use it in hemorrhage, in shock and to prevent shock. The obstetrician in eclampsia and after post partum hemorrhage, provided the hemorrhage is well under control. The physician, in anemia, enteric fever and pneumonia. Dr McIntosh has also had excellent results in rheumatism, both muscular and articular, by the use of the solution.

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**Circulatory Remedies:** D. S. Hanson, in an article on "The Return Circulation," in the *Medical Council* for July, believes that the nitrites as vasodilators act not so much on the nerve centers as directed on the unstriped muscle of the walls of the blood-vessels; many cases of cyanosis that at first look like vasoparesis, will upon closer investigation be found to be due to arterial spasm, of small

arteries and arterioles, thereby preventing the onward current from forcing the blood out of the capillaries and veins, causing a marked slowing of the blood current in these vessels, and a consequent cyanosis which can be quickly relieved by a dose of nitroglycerin. The one diagnostic point most noticeable here is that the pulse is never so weak nor the arteries so empty as in vasomotor dilation. Adrenalin is *par excellence* the best vasoconstrictor we have, not only strengthening the peripheral circulation, but slowing and reinforcing the heart as well. The action differs from the digitalis group, or the combination of digitalis and strychnin, chiefly in the rapidity of its action, the rise of blood-pressure being greater and more evanescent. Cushing says the merest trace of epinephrin given by the intravenous method will produce the typical effect, a much larger amount given subcutaneously or by the mouth having little or no effect. Crile, however, advises its use subcutaneously, unless the most rapid action is desired. When used in either way it should always be given in normal saline solution, in a strength not greater than 1 in 50,000. This drug seems to have a selective action on the digestive organs; the uterus is markedly affected, while the bladder remains almost uninfluenced.

#### Veronal:

In the *Journal of Medicine and Surgery* for May, Gottlieb Meyer details his experience with

veronal in the treatment of nervous insomnia. According to his results it is the most satisfactory drug of its kind with which he is acquainted, its advantages seeming to be that it acts promptly, is generally well tolerated, and produces fewer after effects than the other hypnotics which he has tried. He believes it is not necessary, however, to give it in doses of 80 grains, as generally recommended, having found five grains usually to produce a refreshing sleep, unless the patients were very excited. If given in the form of powder it should be dissolved in some hot fluid. The most agreeable way to administer it, he finds, is in the form of an elixir, recently placed on the market under the name of neuronidia. Each dessertspoonful of this contains four grains of veronal, acts fully as efficiently as the hot solution, and is much more willingly taken by the patient.

#### Carbolic Acid:

Justin Herold, in the *Medical News* for July 1, calls attention to gangrene following the local use of carbolic acid solutions. The patient usually comes for treatment with the history of having treated a cut, bruise or felon with a solution of carbolic acid, or with an ointment containing small quantities of the drug. It is reasonable to assume that solutions of carbolic acid usually are no stronger than five percent, since water, which is the usual solvent, will practically only dissolve about five percent. Hence most cases of gangrene, due to this acid, result from the use of solutions varying in strength from one to five percent (one percent in a case quoted). In most cases the affected member is found dead black in color, and the only therapeutic measures are amputation or disarticulation. An alcoholic dressing may be tried in the hope that it may destroy any carbolic acid remaining in the surrounding partially dead tissue. It might be beneficial to apply a dressing saturated with lime water if the case is

seen soon after the removal of the carbolic acid. The best prophylactic is to avoid the use of this chemical for wounds, and resort in its stead to some of the many other excellent drugs for this purpose. It is well known that gangrene does not invariably follow from such application, but this fact should not deter those who have occasion to recommend or use such solutions from recommending caution and especially to keep it out of the reach of children.

**Herpes Zoster:** In the *New York and Philadelphia Medical Journal*, Daisy M. A. Robinson has observed that in cases of herpes zoster, seen early, the use of a coal tar preparation, such as antipyrin or phenacetin, is of the greatest benefit in the majority of cases, both as regards a lessening of the severity of the symptoms, and also in diminishing the duration of the disease. How the drug acts she does not know but is inclined to look upon it as an anti-toxic agent, rendering the toxines innocuous to a certain extent. In some cases the lesions seem aborted, many of the papules never reaching the vesicular stage, and the vesicles drying up early, with less tendency to the formation of bullae than usually occurs. This does not occur in all cases, but perhaps it has been the fault of the dosage. In elderly subjects, and in those of a neurotic temperament, the failures have been most frequent. The abortive action is not so reliable if the case is not seen until the eruption is in an advanced stage, hence the importance of early observation and treatment. The dose of antipyrin given has been ten grains twice a day for three or four days, in cases of adults, and in children and in old people the proper corresponding amount. She sums up her plan of treatment for herpes zoster as: rest, attention to the general nutrition of the body, the combating of the microbes, the application of cold over the affected ganglia, a coal tar preparation for the toxemia, and codein and bromid of potassium for pain not controlled by the antipyrin. Local treatment consists in aseptic and antiseptic measures. If seen early the affected area can be disinfected in the usual manner by soap and alcohol, and then painted with flexible collodion, and when convenient an antiseptic gauze applied. If seen later when vesicles are changing color, an ointment of boric acid and bismuth subnitrate and avoidance of soap and water meet the indications. Later ichthylol can be added to the ointment, or the ammoniated chlorid of mercury ointment with rose ointment to which bismuth may be added and also ichthylol.

**Typhoid Fever:** Edward C. Register, in the *Charlotte Medical Journal* for June, in the treatment of typhoid fever, is not in sympathy with the usual plan of giving nourishment at fixed intervals. It is his custom to do this every three hours when the patient is awake, but he seldom has a patient awakened for the purpose of taking nourishment. He believes it better in cases, sometimes seen, that sleep a great deal, not to disturb them during sleep to give nourishment. He has never seen but one good sleeper who suffered from typhoid fever die. He is usually satisfied about a patient when fever produces sleep and feels uneasy when the fever produces insomnia. He is in sympathy with the general belief that milk is the best food for typhoid fever and usually prefers sour milk or buttermilk. While not an ideal

food, it is the best he knows, and seems to produce less evidence of indigestion in his patients than anything else. He gives buttermilk as food in nearly 85 percent of his fever patients. He seldom gives over half a glass of milk either buttermilk or sweet milk every three hours, while the patient is awake. Alcohol he believes has a very limited use in typhoid, and when he gives it has a specific reason for so doing. It is not a heart stimulant proper and as a food is of very little value. In a few cases he has seen it quiet delirious patients when other means failed. The number of cases in which he has found it indicated will not exceed 10%, and in those who are past middle life, he has found stimulants, especially strychnin and whiskey, of great value.

**Ergot:** Torold Sollman and E. D. Brown, in the *Journal of the American Medical Association*

for July 22, have found in experiments with ergot when injected intravenously no item which would point to ergot as a useful drug for modifying the general circulation. The reputed rise of blood-pressure is too small and particularly too short to have any significance. It fails most completely in conditions in which the blood-pressure is low. They do not deny, however, the existence of those vascular actions which have been observed by some clinicians and denied by others, merely saying that these clinical observations are not at present supported by experimental evidence. It is conceivable that ergot, acting in man unequally on different organs, might thus alter the distribution of blood, so as to be of benefit in the obscure conditions in which it is recommended.

**Dioxogen:** G. V. I. Brown, in the *Journal of the American Medical Association* for March 18, advises the

use of dioxogen in extensive mouth operations. Strong solutions of poisonous or tissue destructive germicidal agents are necessarily precluded in the mouth. His post-operative sheet anchor is dioxogen which gives mechanical cleansing, while at the same time destroying the vital properties of bacteria. He prefers dioxogen because he has found it the most uniformly free from acid of any of the preparations of hydrogen peroxid.

**Chloretone:** In the *Medical Bulletin* for April, James Buruet calls attention to the sedative and

hypnotic effects upon the central nervous system of chloretone. He has found it beneficial in insomnia due to mental overstrain or worry, and in heart cases in which sleep is important and most essential to the well-being of the patient. He believes that in chloretone we possess one of the best, if not the best, hypnotic for such cases. Chloretone, he asserts, does not leave any after depression as the bromid is apt to, and so far as his observations have gone, it has no cumulative action, seeming to be entirely eliminated within a few hours of its administration. In his opinion it is one of the safest of our hypnotics, possessing a wide range of therapeutic application. The dose is from five to 20 grains, and he prefers to give it in capsules or cachets, the taste not being agreeable. He has also found boro-chloretone, in which it is combined with boric acid, to give prompt and great relief, when dusted freely over a burned area.

## International Medical Congress

The next International Medical Congress will be held in Lisbon, April 19 to 26, 1906. It is expected that it will be one of unusual importance, for a meeting which will be held in what has always been considered as an out-of-the-way country. Already the titles of papers from some of the most distinguished men of the medical profession have been received. Some of the topics for discussion that have been selected by the Executive Committee are the following:

### SECTION OF DESCRIPTIVE AND COMPARATIVE ANATOMY, ANTHROPOLOGY, EMBRYOLOGY AND HISTOLOGY

Definition, structure and composition of protoplasm.  
Origin, nature and classification of pigments.  
Cellular changes in normal tissues.  
Evolution and involution of the thymus gland.

### SECTION OF PHYSIOLOGY.

The role of leucocytes in nutrition.  
The thyroid secretion.  
Renal permeability.  
The nutritive value of alcohol.  
The physiology of the cytotoxins.  
The blood ferment.

### SECTION OF GENERAL PATHOLOGY, BACTERIOLOGY AND PATHOLOGIC ANATOMY.

What are the present scientific proofs of the parasitic nature of neoplasms, especially of cancer?  
Preventive inoculations against bacterial diseases.  
Preventive inoculations against protozoic diseases.  
Preventive inoculations against diseases from an unknown specific agent.  
The pancreas and fat necrosis.

### THERAPEUTICS AND PHARMACOLOGY

Local therapeutics in infectious diseases.  
Separation, from a physiologic and therapeutic point of view, of the different radiations produced in Crooke's tubes and of those which are sent out by radioactive bodies.  
The therapeutic value of bactericidal serums.  
The relation between the molecular constitution of organic bodies and their physiologic and therapeutic action.

### SECTION OF MEDICINE

The pathogenesis of diabetes.  
The pathogenesis of arterial hypertension.  
The treatment of cirrhosis of the liver.  
Cerebrospinal meningitis.  
International defense against tuberculosis .  
Meningeal hemorrhages.

### SECTION OF PEDIATRICS

Spastic affections of infancy; classification and pathogenesis.  
Cerebrospinal meningitis; etiology and treatment.  
The social struggle against rickets.  
Orthopedic surgery in affections of nervous origin, spastic and paralytic.  
Congenital dislocation of the hip.  
The treatment of abdominal tuberculosis (peritoneal).

### NEUROLOGY, PSYCHIATRY AND CRIMINAL ANTHROPOLOGY

- Penal reform from the anthropologic and psychiatric point of view.
- Forms and pathogenesis of dementia praecox.
- The relations of progressive muscular atrophy to Charcot's disease.
- Cerebral localization in mental disease.
- Education and crime.
- Stigmata of degeneration and crime.

### SECTION OF SURGERY

- Septic peritoneal infections; classification and treatment.
- Gastrointestinal and intestinointestinal anastomoses.
- Recent additions to arterial and venous surgery.

### SECTION OF MEDICINE AND SURGERY OF THE URINARY ORGANS

- Surgical intervention in Bright's disease.
- Surgical treatment of prostatico-vesical tuberculosis.
- Progress of urology in the diagnosis of renal disease.
- Painful cystides.

### SECTION OF OPHTHALMOLOGY

- Blepharoplasty.
- Serotherapy in ophthalmology.

### SECTION OF LARYNGOLOGY, RHINOLOGY, OTOLARYNGOLOGY AND STOMATOLOGY

- Study of the epileptogenous action of foreign bodies in the ear and of vegetations in the naso-pharynx.
- The different forms of suppuration of the maxillary sinus.
- Injections of paraffin in rhinology.
- Differential diagnosis of tuberculous, syphilitic and cancerous lesions of the larynx.
- Choice of anesthesia in the extraction of teeth.
- Treatment of alveolar suppuration.

### SECTION OF OBSTETRICS AND GYNECOLOGY

- Conservative surgery of the ovaries.
- Tuberculosis of the adnexa.
- Symphiotomy.
- Pregnancy and cancer of the uterus.
- Therapy of puerperal infections.

### SECTION OF HYGIENE AND EPIDEMIOLOGY

- The intermediary of yellow fever.
- The co-operation of nations to prevent the importation of yellow fever and the pest.
- Watering the streets as a means against tuberculosis.
- Recent additions to the etiology and epidemiology of epidemic cerebrospinal meningitis.

### SECTION OF MILITARY MEDICINE

- Portable ration of the soldier during campaign.
- The purifying of the country water.
- Emergency hospitals on the battlefield.

### SECTION OF LEGAL MEDICINE

- Signs of death from drowning.
- Ecchymoses in legal medicine.
- Epilepsy in legal medicine.
- Organization of medico-legal services.

### SECTION OF COLONIAL AND NAVAL MEDICINE

- Etiology and prophylaxis of beri-beri.
- Etiology and prophylaxis of dysentery in hot countries.
- Mental diseases in tropical countries.
- Hospital ships and their function in time of war.
- Tuberculosis in the navy and its prophylaxis.

## Book Reviews

- A **Text-Book on the Practice of Gynecology. For Practitioners and Students.** By W. Easterly Ashton, M. D., LL. D., Fellow of the American Gynecologic Society; Professor of Gynecology in the Medico-Chirurgical College of Philadelphia. Octavo volume of 1079 pages, containing 1046 new and entirely original line drawings. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$6.50 net; Half Morocco, \$7.50 net.

The author has endeavored to write a comprehensive treatise upon gynecology so supplied with all details, that the general practitioner who has had no special hospital training in this work, will find full directions for a correct diagnosis and for carrying out the various operative procedures necessary. This work has been admirably accomplished, although the size of the book has been necessarily increased beyond that of the usual works on gynecology. There are a large number of excellent illustrations showing the steps in various operations, the instruments required, etc. There is rather a noticeable absence of plates dealing with the microscopic appearances of pathologic conditions. Probably this is just as well as the average practitioner has not the facilities for such examinations, and such work is usually relegated to a pathologist. Sections dealing with such topics as hydrotherapy, diatetics, blood examinations, X-ray treatment, etc., have been included and the whole work is probably the most complete in the language for the general practitioner or student. It will undoubtedly prove very valuable.

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- A **Syllabus of Materia Medica,** by Warren Coleman, M. D., Professor of Clinical Medicine and Instructor in Materia Medica in Cornell University Medical College, etc. Second edition. New York. William Wood & Company. 1905.

This is a very convenient and satisfactory little volume of about 200 pages, and includes within its pages the essentials of Materia Medica, presented in a form to assist the memory as much as possible. It is intended to supplement the larger works on the subject and fills its place quite acceptably. In this, the second edition, new sections have been added upon Minor Toxic Actions and Toxicology. In the list of drugs affecting the color of the urine, methylene blue is omitted.

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- A **Treatise on Diseases of the Nervous System,** by L. Harrison Mettler, A. M., M. D., Associate Professor of Neurology, College of Medicine of the University of Illinois; Professor of Mental and Nervous Diseases in the Chicago Clinical School; Consulting Neurologist to the Norwegian Deaconess' Home and Hospital, Chicago. Complete in one volume; 1,000 pages; profusely illustrated; two color plates; full indexes. Cloth, \$5. Half morocco, \$6. Cleveland Press, Chicago, 1905.

This work thoroughly covers the diseases of the Nervous System. The subject matter of the chapters is well written, and represents the latest ideas on the points covered. It is moderately freely illustrated with plates and diagrams, some of which are good. The book recommends itself as a Students' and Practitioners' Manual.

Pharmacology of the Fluid Extracts in Common Use. A brief account of the derivation, the most important constituents and the chief physiological effects produced by the drugs employed in their preparation, with incidental mention of their therapeutic uses. By John S. Wright. Prepared especially for Students of Medicine. Published from the research department of Eli Lilly & Co. Indianapolis. 1905.

This little work embodies concisely "the latest and most authoritative statements concerning the origin, active principles, and physiologic effects of the drugs commonly administered as fluid extracts." In addition it contains an appendix with much general information useful to the student and physician.

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Findley's Gynecological Diagnosis. A Treatise on the Diagnosis of Diseases of Women. For Students and Practitioners. By Palmer Findley, B. S., M. D., Assistant Professor of Obstetrics and Gynecology, Rush Medical College in affiliation with the University of Chicago; Assistant Attending Gynecologist to the Presbyterian Hospital, Chicago. In one octavo volume of 588 pages, illustrated with 222 engravings in the text and 59 plates in colors and monochrome. Cloth, \$4.75, net; leather, \$5.75, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

Perhaps in recent years more progress has been made in the surgery of the female pelvic organs than in any other branch of surgery. The variety of lesions encountered is large and the number of gynecologic cases is such that special wards are usually devoted to them in hospital work. The need for a reliable work on the diagnosis of these ailments is therefore apparent and Findley's book is most satisfactory. The former edition was reviewed not long ago in these pages. The present volume has been enlarged by the addition of considerable new matter and illustrations. The various means of diagnosis are first considered. The importance of the details of the history are first made clear and the significance of certain symptoms pointed out. The physical examination of the patient is then discussed with such additional aids as blood examination and bacteriologic investigation. The examination of curettings and excised portions of tissues is then considered. The second part of the book takes up the various pathologic conditions of the different organs, while part three is devoted to the diagnosis of diseases of the urinary system. The whole is thoroughly illustrated and is one of the best of its kind. Its past success is a high recommendation and it can be heartily endorsed.

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The American Year-Book of Medicine and Surgery for 1905. A Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of George M. Gould, A. M., M. D. In two volumes. Volume I, including General Medicine; Volume II, General Surgery. Two octavos of about 700 pages each, fully illustrated. Philadelphia and London: W. B. Saunders & Co., 1905. Per volume: Cloth, \$3.00 net; Half Morocco, \$3.75 net.

Among the various Year-Books of Medicine, there is none which occupies a higher place than Dr Gould's work devoted to both medicine and surgery. The volumes for the current year maintain the high standard of excellence of which we have had so fine an example in

the previous editions of this work. Through the collaboration of his editorial staff, Dr Gould succeeds in presenting in a most satisfactory way the important points to be found in the literature for the past 12 months. In the preface of the volume on medicine, Dr Gould calls attention to the great loss which the profession has sustained in the death of Dr S. W. Abbott, of Boston, who has edited the department dealing with public hygiene and preventive medicine. We congratulate Dr Gould on his choice in the successor, Dr John S. Fulton, of Baltimore. This work is one which no physician can really afford to be without.

### Lakeside Hospital Medical and Pathological Club

Current Literature Meeting, August 9, 1905, 8:00 p. m. Program: "Myositis Ossificans Traumatica," Dr Cushing; "Case of Cerebral Abscess," Dr Darby; "Case of Exophthalmic Goitre," Dr Crile; "Demonstration of Specimens," Dr Marine; "Review of July Literature," House Staff."

F. C. HOSKINS, Sec'y.

### Medical News

Clarence Selby, of this city, is now located in Toledo.

M. Rosenwasser, has removed from Woodland Ave., to 456 Lennox Building.

Hugh Mitchell, formerly of Canton, has gone to Philadelphia where he will again locate.

Dr McNamara, of this city, has moved his residence to Lorain where he will continue the practice of medicine.

George Clayton, contract surgeon at the Columbus Barracks, has been ordered to report for duty at Manilla.

J. I. Taylor, of Wheelersburg, has given up his practice at that place and will locate some place south.

A. E. Vinson, of Delaware, has gone to Tucson, Arizona, where he has been elected to a professorship in chemistry.

J. H. Mattern, who has been a practicing physician at Unionport, for several years past, moved to New Philadelphia, where he will continue the practice of medicine.

Alfred G. Farmer recently graduated from the Kentucky University of Medicine, leaves Athens to receive the appointment of House Physician in the Panama Government Hospital Service.

D. V. Burkett, of Thornville, who was so severely injured some weeks ago while boarding a street car, will soon be able to return to active practice.

The first joint meeting and midsummer outing of Lake and Ashtabula County Medical societies was held at the Shore Club, on Monday, August 7. The following doctors were present: from Ashtabula, Drs Leet, Warner, Pomery, Fox, Palmer, Clark, Weiss and Dickson; from Lake, Drs Amidon, Quayle, Lowe, Hawley, Sherman, House, Moore, Carmedy,

Brady, Ingersoll, Dow, Grauel, York, Wilson, Pratt, Merriman and Hudson; from Cleveland there were Councilor Lower, Collaborator Ford and Attorney Carr.

A special meeting of the executive board of the Ohio State Medical Association was held Saturday evening at the Chittenden Hotel. There were present President Thomas Charles Martin, of Cleveland; Vicepresident B. H. Blair, Lebanon; Secretary, Frank Winders, Columbus; Councilors Brooks F. Beebe, Cincinnati, first district; Horace Bonner, Dayton, second; W. E. Lower, Cleveland, fifth; and T. Clark Miller, Massillon, sixth.

In July the association established a medical paper, known as the "Ohio State Medical Journal," with Dr Frank Winders, editor and manager, and published in Columbus. The meeting of the board was for the purpose of outlining the policy of the journal and to define the methods of conducting the business incident to the publication.

At the next meeting of the Mississippi Valley Medical Association to be held at Indianapolis, Ind., October 10, 11, 12, the annual addresses will be delivered by Dr Arthur R. Edwards, of Chicago, and Dr W. D. Haggard, of Nashville, Tenn. Dr Edwards has chosen for the subject of his address, "Certain Phases of Uremia, Their Diagnosis and Treatment," and Dr Haggard will discuss in his address, "The Present Status of Surgery of the Stomach." In addition to these addresses there will be the annual address of the President, Dr Bransford Lewis, of St. Louis. A cordial invitation is extended to every physician in the valley to attend this meeting for which a large number of interesting and valuable papers have been promised.

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### Born

To Dr and Mrs Russell Hall Birge, a son, on Monday, August 7, 1905.

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### Marriages

Dr Geo. W. Moorehouse, Cleveland, to Miss Kathryn Miles, Sharpsville, Pa., Wednesday, August 16, at Sharpsville, Pa.

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### Deaths

Phillip Ballard, died recently at Grelton, Ohio, at the age of 88.

Millard Tobias, died near Covington, August 12, of typhoid fever.

Edwin W. Woodward, of Cleveland, died August 15, at Lutheran Hospital.

Otto Negelpatch, of Millersburg, was accidentally electrocuted August 14.

# The Cleveland Medical Journal

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## The Mortality Statistics of the Twelfth Census

BY H. E. HANDESON, M. D., CLEVELAND

The "Abstract of the Twelfth Census of the United States, 1900," which appeared in a third edition in April, 1904, seems to have met with unexpected popularity. The first edition, published in November, 1903, was exhausted by the popular demand in six months. A second edition from the same plates met with the same fate. Accordingly this third edition, including additional data not comprehended in the first two editions, was prepared and published. The book is of convenient size, is well arranged, well printed, and forms a very useful compendium of facts relating to the population, the mortality, the agricultural and manufacturing interests, the street and electric railways, electric power and light systems, etc., of the United States.

The present paper is concerned entirely with the mortality statistics of the twelfth census, which, though limited and fragmentary, furnish considerable food for the thought of the medical profession.

These statistics are limited to what is called the "registration area," which includes nine only of the forty-five states, *to wit*, Connecticut, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island, Vermont and the District of Columbia, and 153 "registration cities" not situated in the states mentioned. The report adds: "These are all states and all cities having at least 8,000 inhabitants, for which the registration of deaths under local laws and ordinances was found to be sufficiently accurate for use by the Census Office." The physicians and the people of Ohio, the seventeenth state in the Union in respect to age, the fourth in population and the peer of any state in reputation and influence, must blush at the absence of its name from this brief roll of states whose vital statistics are sufficiently extensive and accurate to warrant inclusion in the decennial census reports of the United States.

The necessity for the limitation of the statistics of mortality to a comparatively small area (less than six per cent. of the total area of the continental United States) is unfortunate on very many accounts. It gives to the figures an unavoidably local color, since seven of the nine states mentioned above are found in the North Atlantic Division, one only (Michigan) in the North Central Division, and the District of Columbia alone in the South Atlantic Division. The influence of climate upon the diseases and the mortality of the country is thus excluded almost entirely from consideration. It is true that this partial view is in a measure corrected by the introduction of the vital statistics of 153 cities not located in the registration states, but scattered throughout the other grand divisions of the country. Yet this correction itself thus takes on an exclusively urban character, which again distorts the evidence of the true condition of the divisions represented only by a few cities within their territory. The state of Louisiana, e. g., is represented only by New Orleans, with a death-rate of 28.9 per 1,000 inhabitants, and Shreveport (apparently the charnel-house of the United States) with the frightful mortality of 45.5 per thousand.

While we deplore the imperfections thus noticed, we recognize, of course, their necessity under existing circumstances, and must therefore employ the figures furnished with rigid caution and circumspection in their application to communities other than those from which they are derived.

It should also be mentioned that the population included in the "registration area" of the census is 28,807,269, or about 38 per cent. of the population of the continental United States in the year 1900.

The first table of the mortality statistics is entitled "Deaths and Death Rates from Certain Causes, for the Registration Area; 1900 and 1890." The most important facts here noticed are:

1. The death rate from pneumonia, 186.9 per 100,000 in 1890, increased in 1900 to 191.9 per 100,000.
2. The death rate from consumption (including general tuberculosis), which in 1890 aggregated 245.4 per 100,000 shows in 1900 the flattering decrease to 190.5 per 100,000. So far as they go, these figures seem to indicate that the recent campaign of popular instruction as to the causes and treatment of the greatest scourge of our race is bearing abundant fruit in a greatly decreased mortality.

3. The mortality from apoplexy, 49 per 100,000 in 1890, is increased in 1900 to 66.6 per 100,000. Manifestly the notorious "strenuousness" of American life has not yet been materially tempered by the peaceful influence of pastor Wagner.

4. "Old age," according to the table, occasioned in 1890 the death of 44.9 persons per 100,000, and in 1900 54 per 100,000. We men of a maturity bordering upon senescence may at least receive this ambiguous information with a hesitating smile. It seems, at all events, to indicate the approaching desuetude of Oslerian anesthesia.

5. The mortality from diphtheria, 70.1 per 100,000 in 1890, is cut nearly in two by the reduced mortality of 1900, 35.4 in 1900.

6. Typhoid fever in 1890 occasioned the death of 46.3 persons per 100,000. These figures are happily reduced to 33.8 in 1900.

7. Railroad accidents in 1890 destroyed 14 in each 100,000 of our population. A reduction of this rate to 13.2 in 1900 should attract the attention of commercial travelers, and be brought promptly to the notice of the directors of the Equitable Life Insurance Company.

8. Appendicitis, for another decennium at least, must furnish continued material for the sanguinary struggle between the surgeons and the pure physicians, for a mortality of 9.9 per 100,000 from this disease in 1900 is balanced by no figures in 1890.

9. The mortality from cholera infantum decreased from 79.7 per 100,000 in 1890 to 47.8 in 1900—one of the most beneficent advances recorded in the tables.

10. Cancer, the bête noir of both physician and surgeon, apparently increased its mortality from 47.9 to 60 per 100,000 in 1900.

Turning now to the general death rate from all causes, table 95 furnishes us the following figures:

#### GENERAL DEATH RATES, 1900,

	Total	Whites	Negroes
Of the total registration area.....	17.8	17.3	29.6
Of the cities of the registration area.....	18.6	17.9	30.5
Of the registration states only.....	17.3	17.1	25.3
Of the cities only of the registration states.....	18.6	18.4	27.6
Of the rural districts only of registration states.....	15.4	15.3	19.0
Of registration cities in non-registration states.....	18.6	17.5	31.3

These figures, of course, apply literally to the registration area only. It is probable, however, that they may be accepted as

substantially correct for the *urban* population of the entire country. The absence of representation of the *rural* population outside of the registration area renders the figures of the rural districts unreliable for general purposes.

Within the limits of the registration area, Michigan leads with a general mortality of only 13.9 per 1,000 inhabitants, and the District of Columbia closes the list with the relatively high rate of 22.8 per thousand. How very sensitive the figures are to the presence of a considerable negro contingent is well shown in the rate last mentioned. The District of Columbia, with a negro population of 31.1 per cent., exhibits a total mortality of 22.8 per 1,000, of which the white population is responsible for a rate of only 19.1 and the negro for a rate of 31 per thousand.

The striking influence of the negro population upon the mortality of communities is, of course, well known, but this knowledge will be emphasized and rendered more definite by the following table of the mortalities of 24 cities, similar in numbers of population, but differentiated chiefly by the size of the negro contingent.

CITIES	Population	Per cent. Negroes	MORTALITY		
			Total	White	Negroes
Baltimore, Md. ....	508,957	15.6	21.0	19.1	31.2
New Orleans, La. ....	287,104	27.1	28.9	23.8	42.4
Washington, D. C. ....	278,718	31.1	22.8	19.1	31.0
Charleston, S. C. ....	55,807	56.5	37.5	25.6	46.7
Atlanta, Ga. ....	89,872	39.8	26.6	23.1	31.8
Memphis, Tenn. ....	102,320	48.8	25.1	21.9	28.6
Mobile, Ala. ....	38,469	44.3	25.9	21.9	30.8
Norfolk, Va. ....	46,624	43.4	25.2	18.5	33.8
Richmond, Va. ....	85,050	37.9	29.7	24.5	38.1
San Antonio, Tex. ....	53,321	14.1	23.6	23.8	22.4
Savannah, Ga. ....	54,244	51.8	34.3	24.7	43.3
Jacksonville, Fla. ....	28,429	57.1	29.0	25.6	31.6
	1,628,915	38.9	27.5	22.6	34.3
Boston, Mass. ....	560,892	2.1	20.1	20.0	25.5
Detroit, Mich. ....	285,704	1.4	17.1	17.0	24.9
Milwaukee, Wis. ....	285,315	0.3	15.9	16.0	14.7
Manchester, N. H. ....	56,987	.0	19.2	19.2	.0
Albany, N. Y. ....	94,151	1.3	19.3	19.2	21.9
Omaha, Neb. ....	102,555	3.4	13.5	13.2	20.3
Lancaster, Penn. ....	41,459	1.9	17.5	17.4	21.5
Waterbury, Conn. ....	45,859	1.2	17.0	16.9	27.5
Dayton, Ohio ....	85,333	4.0	16.5	16.3	21.1
Duluth, Minn. ....	52,969	0.7	13.2	13.2	.0
Salt Lake City, Utah ....	53,531	0.5	16.0	15.7	37.0
Pueblo, Col. ....	28,157	4.3	23.0	22.9	24.6
	1,692,912	1.8	17.3	17.2	19.9

It is manifest from these figures that a large percentage of negro population not only implies a largely increased mortality rate in general, but is also accompanied with a considerable increase in the mortality of the whites *per se*. How much of this latter increase is due to climatic and other insanitary causes, and how much to active foci of disease maintained constantly among the negro population, it is impossible with our present knowledge to decide definitely.

The lowest general death rate recorded in the tables of the registration area is 9.1 per thousand, which figures are credited to St. Joseph, Missouri, a city of about 100,000 inhabitants. The highest rate is 45.5 per thousand, charged to Shreveport, Louisiana, with a population of only 16,000.

In table 97 we have a very interesting view of the death rates of infants and of children under the age of five years, a period of life in which the mortality is always very large and not infrequently enormous. The figures quoted below are for each thousand of the population of corresponding age.

	Under 1 yr.	Under 5 yrs.
For total registration area.....	165.4	52.1
For all registration cities.....	179.9	57.6
Registration states only (city and country).....	159.3	49.9
Cities only of registration states.....	184.7	59.7
Rural districts of registration states.....	117.4	34.4
Cities outside of registration states.....	175.2	55.6
Cleveland, Ohio, (for comparison).....	185.5	55.0

Of the individual registration states, Michigan again leads the way with a mortality of 121.3 per 1,000 of children under one year of age, and 36 per thousand of children under five. Vermont is, at least, a close second with figures of 122.1 for children under one year, and actually takes the first place for children under five years with a rate of 34.4 per thousand. The District of Columbia again closes the list with figures of 274.5 and 81.0 for the two respective ages.

Of the registration cities, Helena, Montana, with a population of 10,770, carries the banner with the minimum rate of 52.6 for children under one year of age, while Charleston, S. C., must bear the unenviable reputation of the leader in this modern slaughter of the innocents with a maximum rate of 419.5 for children of the same age. Of course, the shadow of the negro is again reflected in this terrible maximum.

The death rates from certain specified diseases are of peculiar interest to the physician, and the figures for the more prominent

of these are given below. They are calculated for each 100,000 of the population:

	Consumption	Pneumonia	Typhoid fever	Diphtheria	Diarrhoeal diseases
Total registration area.....	187.3	192.0	33.8	45.2	132.8
All registration cities.....	204.9	210.5	36.6	52.8	144.6
Registration states only.....	175.9	193.3	25.4	40.3	132.3
Cities of registration states.....	204.8	233.1	25.3	52.8	156.6
Rural districts of registration states.	134.1	135.9	25.5	22.3	97.2
Cities outside of registration states..	204.9	189.9	46.8	52.8	133.7

A comparison of the specific mortality of the 24 cities tabulated upon page 428 likewise affords interesting information. It is also compiled on the basis of each 100,000 of the population.

CITIES	Consumption	Pneumonia	Typhoid Fever	Diphtheria	Diarrhoeal Diseases
Baltimore, Md. ....	220.3	239.9	34.8	73.5	185.7
New Orleans, La. .	357.7	241.4	66.5	10.4	268.2
Washington, D. C. .	305.3	185.9	80.7	75.3	175.4
Charleston, S. C. ..	464.1	211.4	125.4	1.8	388.8
Atlanta, Ga. ....	333.8	210.3	109.0	44.5	324.9
Memphis, Tenn. ....	271.1	364.5	49.8	17.6	226.7
Mobile, Ala. ....	413.3	176.8	80.6	5.2	179.4
Norfolk, Va. ....	353.9	199.5	57.9	17.2	225.2
Richmond, Va. ....	362.1	281.0	77.6	7.1	259.8
San Antonio, Tex. .	461.4	80.6	82.5	31.9	311.3
Savannah, Ga. ....	392.7	272.8	38.7	20.3	219.4
Jacksonville, Fla. ..	418.6	147.7	66.8	24.6	189.9
Average .....	362.9	217.6	72.5	27.4	246.2
Cleveland .....,	131.8	185.7	48.2	51.6	111.3
Boston, Mass. ....	245.0	249.8	27.3	75.6	132.1
Detroit, Mich. ....	125.0	162.8	18.9	46.9	151.2
Milwaukee, Wis. ..	149.3	151.4	18.2	43.1	137.7
Manchester, N. H. .	205.3	219.3	10.5	24.6	203.6
Albany, N. Y. ....	250.7	177.4	43.5	55.2	71.2
Omaha, Neb. ....	107.3	158.0	40.0	32.2	85.8
Lancaster, Penn. ....	135.1	123.0	55.5	125.4	120.6
Waterbury, Conn. .	183.8	197.5	41.1	27.4	205.3
Dayton, Ohio ....	201.6	77.3	52.7	14.1	63.3
Duluth, Minn. ....	92.5	154.8	43.4	15.1	107.6
Salt Lake City, Utah	106.5	188.7	29.9	16.8	110.2
Pueblo, Col. ....	323.2	266.4	110.1	56.8	131.4
Average .....	177.1	177.2	40.9	44.4	126.7

These somewhat startling figures, it must be borne in mind, are for the single year ending May 31, 1900, and, so far as they relate to the southern states, are very largely affected by the negro population of those states. The figures for consumption may be also increased to some extent by cases of the disease imported from other localities. But, making every allowance for

these unfavorable factors, it is very apparent that our old system of sending tuberculous patients south for the benefit of the climate was worse than useless. The foci of the disease (consumption) are twice as numerous there as in our own climate, and the modern theory that the open air treatment can be carried out in our own colder climate with results equally as favorable as in the south receives no slight confirmation from the figures submitted.

Many other questions of interest to the sanitarian and to the student of social science receive more or less elucidation in these figures of the twelfth census, but they can find no place in a paper already too long. It should, however, be added that the "Statistical Atlas of the United States," prepared by the geographer of the twelfth census, and published in 1903, presents to the eye in the shape of maps and other graphic forms the results of much of the work of that census, and may attract and interest many whose aversion to figures exceeds their appetite for knowledge.

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## The Application of Mechanical Principles in Corrective Plaster Jackets for Pott's Disease

HENRY O. FEISS, CLEVELAND, O.

The purpose of a plaster jacket in the treatment of Pott's disease is three-fold. It is used to fix, so as to prevent movement; second, to protect, so as to prevent jar, and, third, to correct the deformity. It is simply the last-mentioned purpose that we care to discuss in the present report, that is, the mechanical aspect of its use as a corrective agent.

The two underlying principles in the correction of Pott's deformity are extension and leverage.

*Extension:* The use of extension implies the conception of the vertebral column as made up of bone segments, more or less loosely united, so as to form a curved chain capable of being straightened when it is pulled upon.

If we picture a normal spine as naturally assuming certain antero-posterior curves and exert traction upon its two ends so as to obliterate these curves, we can easily understand this principle.

So, in order for extension to be applicable as a straightening agent, we must have two factors; first, the mechanical conditions in the spine inviting extension, that is, one or more curves in its length, and, second, a certain laxity between individual segments permitting their change in relative position as straightening is carried out.

The proposition of extension would be an easy one if we could simply grasp the spine above and below the region attacked by the disease, and so exert pull and counter-pull, but in the human body it is difficult to get hold of the spine so as to make this pull felt. The conventional idea, and the one applied most, is to grasp the upper end, that is, the head, and pull the patient up in the air, letting the weight of the rest of the body be the counter-pull, that is, to pull up the head and let the force of gravity be the complement for extension (Fig. 1). This pull of the head up in the air is obtained by grasping the chin and occiput in a sling and exerting traction by means of a pulley. In doing this we really do extend.

But having obtained extension, how are we going to maintain it after the plaster is applied? The trunk offers only one natural grasping-point for this purpose, that is the pelvic girdle, for the pelvis is relatively firmly attached to the spine at its lowest region, it being the foundation from which the spine begins. In order to use the pelvis as a basis for extension, we must model the plaster around the crests of the ilium.

In order to hold the head we must grasp the occiput, the mastoid processes and the forehead. If, as is commonly done, we only grasp the occiput and the chin, we cannot claim extension for the following reason: The lower jaw is loosely attached to the head proper. This looseness is necessary because the patient must eat and drink. If we get perfect extension by means of the chin and occiput, it means locking of the lower jaw to the upper jaw and immovability, which would, of course, cause starvation. Therefore, we have no right to use the chin as a pulling point for maintaining extension. So the only jackets which really extend are those which include the forehead, the mastoid processes and the occiput, and are firmly modeled around the hips and applied while the patient is actually extended. These points are illustrated in Fig. 2, which shows how the jacket acts on the extended spine, *i. e.*, maintaining extension by furnishing rigid resistance between the head proper and the crests of the ilium.

If extension is applied in this way, it may be used for disease in any region of the spine.

*Leverage:* Leverage implies the conception of the vertebral column as a more or less stiffened rod. If it is used as a lever it means that the point of disease is the fulcrum, that the healthy part of the spine above and below the disease is a power arm and



FIG. 1

Illustrates direction of forces in extension

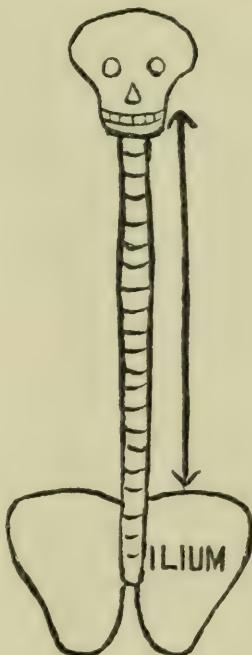


FIG. 2

Illustrates resistance points against which extension jackets should apply

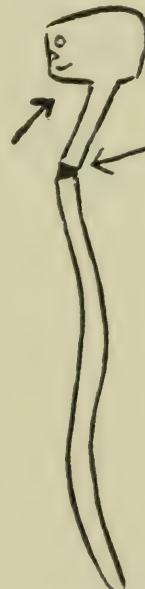


FIG. 3

Illustrates leverage in cervical region

that the weight is the resistance at the diseased region and all through the length when power is exerted.

In order for leverage to be applicable, we must have a certain amount of rigidity. In the normal spine there is some motion between the vertebrae and a great deal of flexibility especially in the cervical and lumbar regions and leverage cannot apply. But in the Pott's spine there is rigidity furnished either by the spasm in the muscles, holding the bones in a steadily maintained relationship or furnished by actual fusion due to the disease. The great limitation of leverage is the fact that although those parts nearest the disease are stiffened, the parts further away remain flexible. Therefore, in order to apply leverage we must obtain great bends in the more removed parts until we reach the end of their mobility when leverage begins in the diseased parts.

In extension we attempted to show that there are only two points to grasp, that is, the head proper and the lower end of the spine as offered by the pelvis. In the same way with leverage, we cannot take hold of the spine and bend it any way we wish. To be sure, we can get hold of the extremities, but in the greater

part of its length only the posterior side is accessible, the anterior and the two lateral sides of the vertebral column being buried in the surrounding tissues.

Starting from above the points for leverage are the head itself, and, second, the chest. The reason that the chest can be used is because the ribs are more or less firmly united to the vertebrae and pressure upon the ribs will exert pressure upon the spine in the same direction. The grasping point for leverage is as high up as possible. The shoulders can never be used either as a means of leverage or extension because the shoulder girdle is a thing entirely separate from the spinal column, the clavicles and scapulae being movable upon the ribs.

The lowest point for leverage is the front of the pelvis. Posteriorly any point along the spine may act as the fulcrum.

In the cervical region we may use pure leverage if we run our plaster only up to the chin, mastoids and occiput, without enclosing the forehead as is necessary for extension. Although we allow some movement of the chin, yet if the neck is held back the plaster will serve to keep the head back upon the chest. This is done by pulling the patient's head up in the same manner as for extension during the application of plaster, and in most cases serves the purpose of correcting the deformity. (Fig. 3.)

In dorsal Pott's disease, leverage is very efficient as a corrective force. For this purpose the Goldthwait frame is a very desirable appliance, although there are other appliances which carry out the same principle.

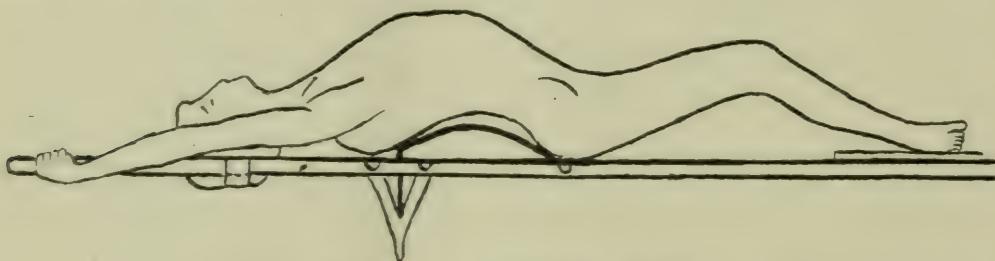


FIG. 4 The Goldthwait Frame

The Goldthwait frame (Fig. 4) consists of a strong gas pipe frame suspended from which is a bar, in the center of which is a vertical rod forked at the top. Further down is another cross-bar which can be adjusted toward or away from the fork. Upon this latter piece and the fork rest two malleable steel bars untempered, which can be bent to conform with the curve of the spine below the knuckle. A felt pad is placed upon the bars and the patient laid upon the pad. The jacket is applied so as to enclose

the pad and bent bars and after the plaster sets the patient is lifted off the frame, the bars coming with him and being inside the jacket. Then the bars are removed by pulling them out from beneath.

In the use of this frame the weight of the legs acts as a power arm upon the spine below the disease and the weight of the upper part of the body acts as a power arm upon the part above the disease. The fulcrum is the diseased point lying upon

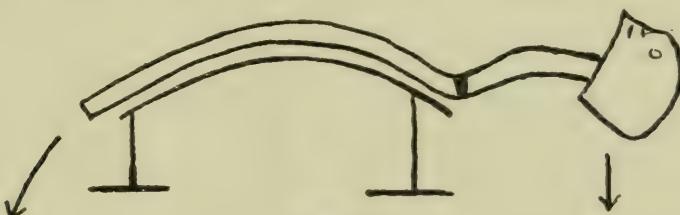


FIG. 5

Illustrates leverage in dorsal region with Goldthwait Frame

the bars as illustrated. (Fig. 5.) In the use of this frame the patient is pretty well corrected as he lies there, but this correction can only be maintained by pressing on the proper places on the chest, that is to say, the plaster must be run up high on the front. Of course, in the use of this frame we do gain a small amount of extension but not much and it is really the leverage which is doing the correcting. The one disadvantage in the use of this frame is the fact that the correction offered by the weight of the lower part of the body is partly compensated for by an increased lordosis of the lumbar spine, so, of course, the lower down the disease the poorer the actual correction to be obtained. (Fig. 6.)

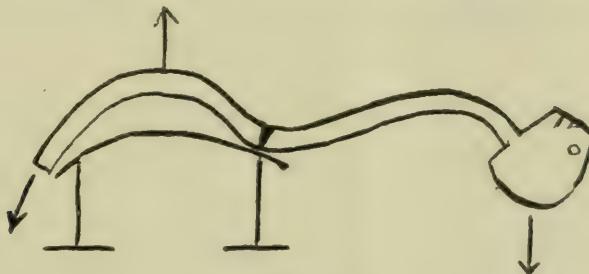


FIG. 6

Illustrates poor leverage in dorsal region with Goldthwait Frame

Therefore, when we come to the lumbar spine the Goldthwait frame has no application and we may have to resort again to extension, but there is a very simple and comfortable way of getting our correction in this region by means of leverage, and that is by placing the patient face downwards on the "hammock" contrivance or some similar appliance, there being various modifications.

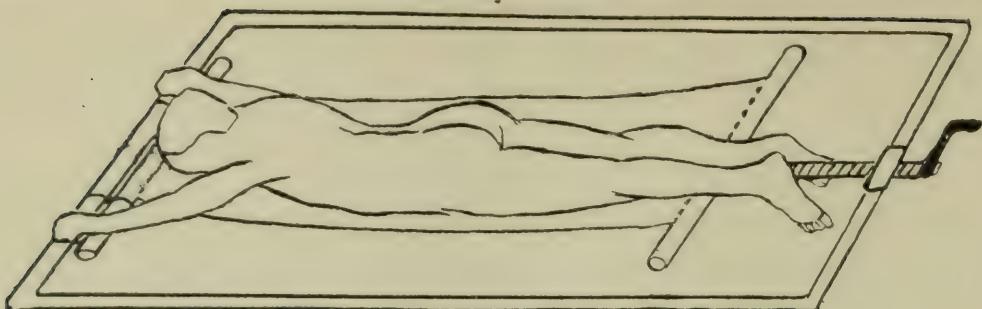


FIG. 7 The "Hammock" appliance.

A good "hammock" appliance (Fig. 7) consists of a strong gas pipe frame on which is suspended a canvas strong enough to support the patient. One end of this canvas is attached to the end of the frame. The other end is fastened to a movable cross-bar, which again is connected with a stout screw at the other end of the frame. By loosening or tightening the screw the hammock is permitted to sag or become taut, whichever is desired. The patient is laid face downward upon this hammock. The extra width of the hammock is split away and then the jacket is applied so as to enclose that part of the hammock beneath the patient's body. When the plaster is set, the hammock is cut off the frame and the canvas under the jacket can simply be drawn out.

The sagging of the canvas during the application of the jacket brings about a mild lordosing of the whole spine. (Fig. 8.)

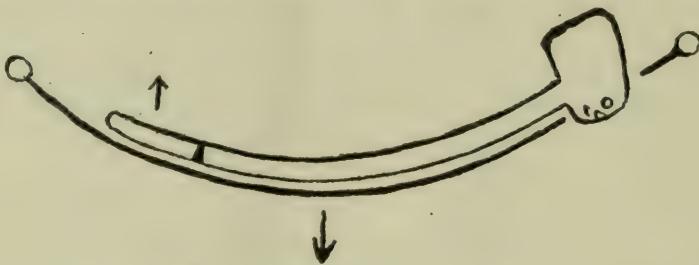


FIG. 8  
Illustrates leverage in lumbar region with hammock

The jacket must go as low as possible reaching down to the trochanters. The patient after he gets up has the head and chest well back of the pelvis, thus obtaining correction by leverage.

With respect to leverage, the words of Charles Fayette Taylor are very pertinent. He says: "If a bent bar of iron is taken to a blacksmith, he will never attempt to straighten it by pulling at each end. He would simply and naturally lay out each end on his anvil and apply his force in the middle. Thus he would have a force at each end, acting in the upper direction, and another force in the middle acting in a downward direction. Why should we

not have as much regard to mechanical laws in straightening a curved spine as is used in straightening a bent piece of wood or metal?"

These remarks of Charles Fayette Taylor emphasize what we have already attempted to demonstrate, that leverage is much easier to apply than extension, and that extension must necessarily have a limited field of use.

In conclusion we wish merely to point out that in the treatment of Pott's case requiring plaster it is not sufficient to simply put the patient "in a cast," as the common expression is, and then to think that the mechanical treatment has been carried out. There is a great deal more to it. It means a recognition of the correction necessary, it means the accessibility to certain apparatus made for the purpose and it means the understanding of certain definite mechanical principles.

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## Some Phases of Renal and Ureteral Lithiasis WITH REPORT OF CASES AND EXHIBITION OF SPECIMENS

BY R. E. SKEEL, M. D.

In the following report, two cases of renal calculus, one of ureteral calculus which was not removed, one of ureteritis with impaction of small uric acid crystals, and one in which a calculus imbedded in the vesical extremity of the ureter was removed by vaginal cystotomy and splitting of the ureteral orifice, are briefly considered.

Although the statistics and literature of renal and ureteral calculus have been increasing at a tremendous rate, I shall quote neither, as you are as well able to read them as I. It is sufficient to say that in spite of modern methods of diagnosis many operations are made upon the kidney in the expectation of finding a stone when it is absent, and conversely many instances of renal and ureteral calculus are overlooked and diagnosed as colic, gall-

stone, ovarian or appendicular disease. How many of these errors are made no one knows, as surgeons are not in the habit of classifying and publishing their failures as they do their successes.

The first case of renal calculus to which I will call attention is that of Mrs A. E., aged 26, who had for some years suffered greatly with backache, pain in the right iliac region and vesical irritability. I had once or twice seen her in attacks of right-sided abdominal pain with a slight elevation of temperature lasting only a day or two, never excessively severe and with some rigidity of the right rectus muscle. Urinary examination invariably revealed an excessive amount of free uric acid. Several years previously she had had her bladder irrigated repeatedly for a supposed cystitis during which she passed some blood. Repeated examination always revealed the same condition of affairs, a pale, nervous individual with severe backache, sometimes upon one side, sometimes the other, but more persistent and noticeable upon the right side. Palpation of the kidney regions showed a movable right kidney exquisitely tender, not perceptibly enlarged, while the left kidney was not appreciable to the touch. The appendix was always tender, the uterus retroverted and appendages normal. She was finally removed to the hospital for operation and while there developed an attack of subacute nephritis with albumen and hyaline and epithelial casts. The quantity of urine was greatly diminished. Under a milk diet and hot packs, this attack subsided and the patient improved so much that she was sent home only to return a short time later with the same old set of symptoms, but much more pronounced upon the right side. She was again removed to the hospital, and exploration of the right kidney with removal of the appendix determined upon. Appendectomy was first performed through a McBurney incision and a catarrhal appendix removed, the kidney exposed through an oblique lumbar incision, brought out of the wound, and a small stone readily palpated in the pelvis. The calculus was so small and the exposure of the pelvis so perfect that an incision through the posterior portion of the pelvis rather than through the cortex was chosen, but, unfortunately, a large branch of the renal vein was nicked and required suturing. During this maneuver the stone slipped through the fingers and into the mouth of the ureter. An opening into the convex surface of the kidney was at once made and the stone plainly felt with a small metallic ureteral catheter, and with a soft instrument it was easily pushed the entire length of the ureter. The kidney incision was sutured, nephropexy performed

and the entire wound closed without drainage. The patient convalesced normally for five days when a sharp chill and elevation of temperature indicated some infection. The dressings were removed and every visible stitch made with fine silk showed evidence of infection. These were removed but the patient's condition continued to be critical until she was again anesthetized, the entire wound reopened, all possible sutures and ligatures removed and the sloughing fatty capsule completely enucleated. The entire cavity was packed with gauze and from this time on convalescence was established, but very slowly, and the kidney is now firmly anchored in place and giving no symptoms excepting during a uric acid storm which comes on less frequently than before.

The calculus was never recovered but was undoubtedly passed by the urethra.

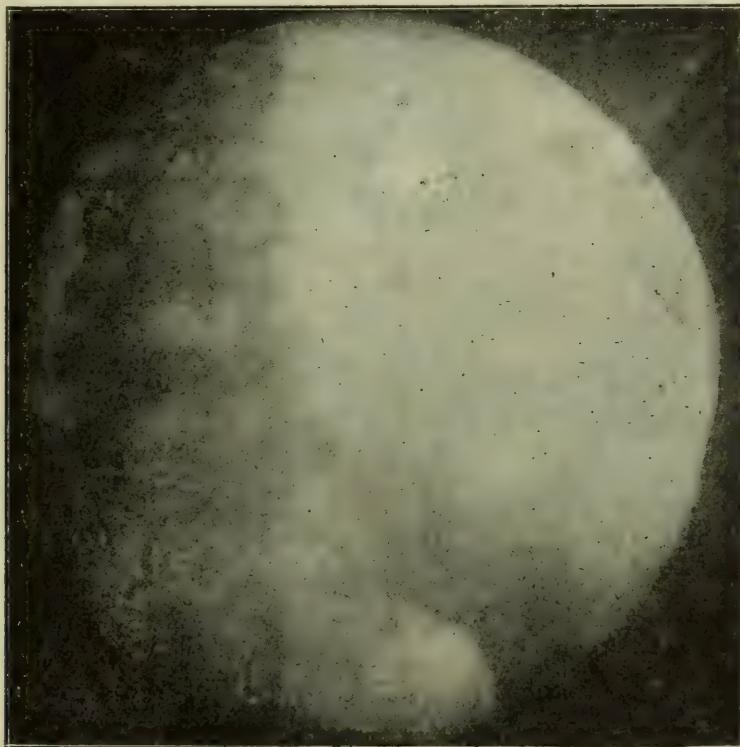
CASE II is the one from whom the specimens here shown were removed. L. B., aged 34, an Italian, had not been well for seven years, complaining of almost constant distress in the right hypochondrium with occasional sharp exacerbations. According to his statement, I saw him five years ago and said that I was unable to make a diagnosis. I have a very distinct recollection of having concluded for some reason that he was shamming. Shortly after this he returned to Italy for treatment but received no benefit. A clear and connected history was hard to obtain, excepting that of recurring attacks of pain always referred to the same location, just above and to the right of the umbilicus. During the last attack he was seen by my brother, Dr A. J. Skeel, who found rigidity over the gall-bladder region, but tenderness was universal from the kidney region to the pelvic brim and as far over as the median line. There was no referred pain to either penis or testicle and no increased frequency of urination. The first urinary examination was negative, excepting for a slight trace of albumen which cleared up after a few days in the hospital with confinement to bed. Daily examination of the urine was made but so long as the patient was quiet it was always found negative. Repeated questioning gave a rather doubtful history of having once passed a few drops of blood through the urethra, and an uncertain acquiescence in the idea that riding made the pain worse, so that suspicion pointed rather sharply to the right kidney. After having the bladder completely emptied, the right kidney region was rather roughly massaged and kneaded and the patient made to walk vigorously about the ward. The next specimen of urine voided, together with the preceding one, was examined by Dr

E. A. Hannum, who found the first entirely clear of any abnormal elements while the second contained a few red blood corpuscles. Upon this rather slender basis a diagnosis was established and the kidney explored through the usual oblique incision. Complete exposure of the organ was difficult owing to the depth of the loin, and to bring it out was impossible without undue tension upon the pedicle. A large retention cyst was found upon the upper pole while the remainder of the kidney was studded with smaller ones. The two calculi exhibited were readily palpated in the pelvis and were removed through an incision in the convex border. A large rent was accidentally made in the pelvis during their removal which could not be satisfactorily sutured owing to its depth and the extreme thinness of the distended pelvic wall so that both the pelvis and parenchyma were drained, the patient making satisfactory recovery. The rapidity with which urinary discharge ceased when the drains were removed was a revelation to me and demonstrated that an opening even in the pelvis will readily heal if the ureter is patent.

During the past winter the patient had an attack of tonsillitis, during which albumen, blood and hyaline casts made their appearance, but at present the urine is entirely normal.

CASE III: H. L. C., male, aged 30, had for years suffered with constant backache directly across the waist line and upon both sides. This backache sometimes became very severe and on a few occasions confined the patient to his bed. There were no symptoms referable to the urinary tract and repeated examination of the spine was made as I was apprehensive of tubercular disease. During my absence from the city the patient consulted a physician who, in spite of the fact that his sexual history was absolutely negative, diagnosed a posterior urethritis and prostatic stricture for which he was sounded and had static electricity used for months with no improvement. Finally a typical attack of right-sided renal colic supervened, the urine contained a trace of blood, and some albumen persisted after the attack subsided. He was sent to the hospital for operation, but during his stay there every trace of blood and albumen disappeared from the urine, the backache vanished and it was felt that the calculus must have passed into the bladder. Within six months all the old symptoms recurred and another attack of colic took place lasting for three days, during which, at one time, almost complete suppression was present. So soon as the immediate attack had passed away a very large soft kidney was exposed and palpated but without

revealing the stone. It was then brought out upon the loin and the usual incision made through the convex border into the pelvis, and the entire kidney searched without result. A metallic ureteral catheter passed toward the bladder met with obstruction and gave a distinct click just above the pelvic brim. It was then decided to close the kidney and expose the ureter to the point of obstruction, but the kidney would not hold a suture even when passed



CASE III

Stone seen in right ureter lying on wing of sacrum

deeply into its substance, and bled furiously both from the incision and from each needle puncture. It was accordingly removed after a small incision through the edge of the left rectus had made it certain that the other kidney was present and normal in size. The patient continued to suffer from extreme pain over the course of the right ureter for 48 hours when a considerable quantity of blood clot entered the bladder and was passed, after which the pain at once subsided. Whether the calculus was contained in the blood clot voided at this time I am unable to say as the specimen was unfortunately destroyed before it could be examined, but he has remained perfectly well now for two years.

CASE IV: Miss T. S., aged 22, was referred to me by my brother, Dr A. J. Skeel, who had made a diagnosis of ureteritis by palpation through the vaginal vault. For several years the patient

had suffered from attacks of pain in the right side of the abdomen and a year previously had been operated upon by a homeopathic surgeon for movable kidney but with no benefit. While first under observation the urinary analysis revealed nothing abnormal but it was probably not so carefully made as it should have been. Physical examination showed an emaciated, very anemic, undersized woman, who was rapidly becoming a morphine habitue and had been confined to her bed for several weeks. The abdomen showed a scar in the right lumbar region at the site of the previous operation. The kidney was palpable, not tender, not perceptibly enlarged. The lower right side of the abdomen was tender upon palpation. Upon vaginal examination, a thickened tender cord was plainly felt following the direction of the ureter and extending as high as the finger could reach. As there were no urinary symptoms, irritable bladder, etc., the diagnosis was felt to be in doubt and ureteral catheterization attempted, the catheter passing but a short distance into the ureteral orifice. A small median abdominal incision was then made for exploration as I still felt that the symptoms were out of all proportion to the physical evidences of disease and the right-sided tenderness and pain too extreme to be accounted for upon a basis of tubercular or other form of chronic ureteral inflammation. The right tube and ovary and appendix were perfectly healthy and the ureter was easily traced up to but not above the pelvic brim. Owing to the extremely weakened condition of the patient it was not thought wise to subject her to other operative treatment at this time and the next operation was postponed for two weeks when the kidney was exposed and opened and its calyces found thoroughly packed with minute uric acid crystals. The source of pain was at once made plain in the attempted passage of this material through the strictured ureter and the kidney was removed. An uninterrupted recovery followed and the young woman has remained in perfect health since. Upon examining the kidney after its removal portions of the suture material used at the first operation were found perfectly preserved about one-half inch below the surface and studded with uric acid incrustations.

CASE V: Mrs M., aged 36, a very intelligent mulatto woman, was referred to me by Dr A. H. Mead, who attended her during a recent attack of subacute pelvic inflammation. She gave a history of repeated attacks of a similar character which she said had previously been diagnosed as appendicitis and her pain was largely referred to the right lower quadrant of the abdomen. For

some months she had had considerable difficulty with frequent painful urination. Examination showed a retroverted, adherent uterus, an old pelvic mass firmly fixed upon the right side and a less distinct one upon the left. Routine examination of the urine by Dr Hannum, showed some blood, pus and a moderate percentage of albumen referable to pus. With the cystoscope clear urine was seen escaping from the right ureteral orifice and cloudy from



CASE V Ureteral Calculus

the left, while the left ureteral orifice was pouting and inflamed. The ureteral catheter passed just beyond the tip when it met with an obstruction. A more careful bimanual examination demonstrated a round, hard mass over the location of the lower end of the ureter but evidence as to its character was negative. It was felt that a direct incision through the vaginal vault was not advisable as if the process proved to be tubercular an intractable fistula would remain.

Vaginal cystotomy was accordingly performed, the ureteral orifice drawn down and the bladder mucosa incised in a direction parallel to the course of the ureter laying that canal open for a distance of one-half inch. The accompanying stone was then visible and was extracted after considerable effort as in spite of its size it tended to retreat up the ureter. The specimen weighed 4.5 grams and measured  $1\frac{1}{2}$  by 2 c. m. The incision in the vaginal vault was closed about a small tube which was allowed to remain for two days when it was withdrawn and the patient allowed to urinate, spontaneously all urine passing per urethram within a week. There are several peculiar features to this case, such as lack of previous symptoms of renal colic and the fact that urine continued to escape in spite of the unusual size of the stone. Close inspection, however, shows a groove longitudinally which is undoubtedly large enough to permit of urine trickling past and saved the patient the function of the left kidney.

Since the above report was written, Case III has suffered an attack of renal colic upon the side from which the kidney was

removed, sufficiently severe to confine him to bed for several days. During this attack the urine, previously normal, contained considerable quantities of pus and a trace of blood. The pain was referred to the site of the lumbar incision and radiated in a characteristic manner to the testicle upon that side. The point of greatest tenderness was directly over the pelvic brim. A cystoscopic examination by Dr Foote was unsatisfactory owing to the extreme tenderness of the prostatic urethra. Roentgen ray examination, by Dr Feiss, gave a shadow at the precise location of the supposed impaction of the stone at the first operation, and with this photograph as a guide it was easy to cut directly down upon the ureter by an extra-peritoneal incision and remove the stone. The ureter was found dilated and hypertrophied above the obstruction and its complete removal down to a point two inches above the bladder wall was easily accomplished, after which the patient made a speedy recovery and it is to be hoped a permanent convalescence.

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### Reform in Charitable Institutions\*

Events in many parts of the country indicate the increasing interest of the medical profession in the conduct of charitable institutions. As organization becomes steadily more complete we are certain to exercise an increasing influence in this direction. A few months ago *The Journal*<sup>1</sup> suggested that each State Medical Association create a committee whose duty it should be to keep close and conscientious watch over the eleemosynary institutions of the state, having an eye particularly to securing scientific medical care for the inmates and graft-free administration. In more than one state this suggestion has been well received. President Halderman of the Ohio State Medical Association in his annual address strongly recommended the appointment of such a committee. Of course the "machine" politicians everywhere have medical friends through whom may be expected subtle efforts to keep the attention of physicians away from these "sores." The interest of the profession in this matter, however, is so direct and so great that its progress will not be stayed. In Illinois, reform from another source has just dawned in the appointment by Governor Deneen of the new Civil Service Commission. The character and past record of the appointees ensures genuine civil service among the employes of the charitable institutions of the state. The Commission at its first meeting outlined a program of careful investigation and of practical execution of the new law. Their efforts to bring the Illinois institutions up to a high level of honesty and efficiency will be closely observed and heartily supported by the medical profession.

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\**The Journal of the American Medical Association*, September 23rd, 1905

1. *The Journal*, March 11, 1905, p. 796

# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
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## EDITORIAL

### Recent Studies on the Etiology of Pneumonia

The magnitude of many of the problems connected with the infectious diseases has led in the course of the last few years to the formation of a number of commissions in which the work connected with the particular problem on hand was divided among a number of observers, the results being collated by the heads of the commission. The prevalence of pneumonia in large cities in the winter months, and the numerous cases in which the disease seemed by its rapid invasion of schools and other institutions to be of a distinctly contagious type, led to the appointing of such a commission by the New York City Health Board a year ago. The commission is to investigate respiratory diseases in general, but its initial year has been spent in the study of pneumonia, and the results are set forth in the current number of the *Journal of Experimental Medicine*. The members of the commission are of international reputation, and the work bears the seal of careful investigation. The disease was studied in New York, Philadelphia and Boston at the same time and the results

agree in all important particulars, though, as was to be expected, the details vary in the different places. The researches published in the present series are chiefly of interest to the laboratory workers, as they deal mainly with the occurrence and distribution of the pneumococcus, and the means of differentiating it from the different varieties of streptococcus found in the throat and elsewhere. There are, however, several points which are of interest to the general practitioner and to the public at large bearing on the etiology of the disease. The pneumococcus, which is conceded to be the chief etiological factor in the causation of lobar pneumonia, has for some time been known to exist in the throats of healthy persons, but studies as to the activity of such organisms have been few and far between. The observers in the different cities, while differing somewhat in the actual figures, are agreed that the organism is found in the throats of many persons in health, even in the summer months, in a proportion of 20 to 40% of the cases examined, while in the winter months, when the disease is prevalent, the percentage rises to nearly 100. The problem is much the same as that entered upon in the study of diphtheria, and the next step was the determination of the relative virulence of the cultures obtained from normal throats, in comparison with those found in the disease itself. The results agree in showing that the proportion of virulent cultures in both cases is about 70%. This reduces the matter to much the same standpoint as in diphtheria, and the further evidence that attendants and nurses of pneumonia patients, as well as those who come into direct contact with them for any reason, are very apt to harbor the organism in their throats without necessarily acquiring the disease, makes the resemblance even more striking. Positive cultures were also obtained readily from drinking cups and other utensils used by the patients. These observations make it necessary to consider pneumonia as a contagious as well as an infectious disease, and the next question in that line is the degree of the danger. One of the papers deals with this specifically, and comes to the conclusion that in a moist condition, and protected from light, the sputum is still infectious at the end of 35 days, and for a somewhat shorter period when dry. In very fine spray or very fine dust, even protected from light, the life of the organism is much shorter, and when light is plenty, especially sunlight, death occurs in a few hours or even less. The danger then is chiefly to those in direct contact with the patient, and properly ventilated and lighted rooms do not hold contagion as is the case

in tuberculosis infection. Disinfection of utensils, careful avoidance of dry sweeping or dusting, and admission of plenty of free air and sunlight, are the main points urged by the authors. The presence of these dangerous organisms in the sputum of apparently healthy persons is an added argument against the practice of expectoration in street cars and other public places as pneumonia is one of the most fatal of the every day maladies, the mortality running about 25%.

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## What Rochester Has Done

### AN EXPERIMENT IN MUNICIPAL MODIFICATION OF MILK

Dr Goler, Health Officer of Rochester, N. Y., has a short article in *Charities*, August 5, 1905, describing the methods adopted in that city to provide for the poor a "clean milk as food for the hand-fed baby." He writes under the title, "But a Thousand a Year," since this has been the average cost of four municipal milk stations furnishing modified milk during the months of July and August for the past eight years. The actual cost of the milk was paid by the patrons.

An examination of Rochester's mortality tables in 1896 revealed an appalling number of deaths of children under five years of age. This condition directed the attention of the health department to the dairy farms supplying milk to the city. Ample cause for the high mortality among children was revealed by this investigation. After describing briefly the condition of the stables, cows and utensils as they prevail on the average farm, Dr Goler states that, up to this period, children were fed upon such milk with hardly a protest upon the part of those responsible for their food.

The milkmen contended that they were taking the same care of their cows and milk that they had always taken, and that they could not take any better care of the milk at the price current at that time—five cents per quart. Therefore, work with the milkmen alone seemed hopeless and the department determined, at least during the summer season, to go into the milk business itself.

"As at that time it was customary," Dr Goler says, "to Pasteurize the white mixture of bacteria, dirt, and other foreign substances known as milk, we made the mistake in the beginning of Pasteurizing our milk." Milk was procured from one or another of the farms in the vicinity of the city. The farm was

selected from those thought by the milk inspectors to be in the most sanitary condition. For three years it was sent from the farms to the city and there put up in four different mixtures of four, five, seven and eight ounces in nursing bottles and heated to 180° F. It was sold at cost, varying from one cent for two four ounce bottles to one cent each for the eight ounce bottles. A deposit was required on bottles and corks.

Pasteurization was continued for three years although considerable difficulty was experienced in finding a man to furnish reasonably clean milk, and with the souring of milk. In 1893 the central station was established on a farm, and instead of Pasteurizing milk, with all its contained filth and bacteria, an effort was made to keep dirt and germs out of the milk, since clean milk or milk approximately clean needs no heat to render it a fit food for babies, and leaves it more easily digestable. The application of heat to milk, moreover, leads people to think that they can cure a condition that is properly prevented by care in the handling of milk used for food.

For the central station a farm was selected where the cattle, barn and surroundings were in good condition, and where the farmer was willing to take more than usual care of his cows. A farm of extraordinary fine appearance was not sought, but one where ordinary conditions might be improved upon so as to make them fit for the purpose of the department.

The milk laboratory erected on the farm consists of a portable wooden house, built in sections, and containing shelving, tables, milk utensils, bottles, boxes for shipping milk and the necessary cleaning utensils. Back of the house a long platform is built, and upon this under awnings and tents, provided for the coolness and shelter, the bottles are washed and the utensils are sterilized. The nurse in charge sleeps in a third tent.

In the daily routine, one assistant watches and supervises the process of the milking. The pails are not the usual open milk pails, but are covered at the top and have a four-inch opening from which a collar rises to the height of one inch. Over this collar and secured by a rim a double thickness of cheese cloth is placed, and the cow is milked directly through this cheese cloth diaphragm into the pail. As soon as the pails are full they are taken to the laboratory, the diaphragm removed, the milk poured out, new diaphragms fitted and the pails sent back for more milk.

The various mixtures, four in number, are made at once, racked off into the nursing bottles, corked, placed in wooden ship-

ping trays holding four dozen each, covered with broken ice and shipped to the different stations. The care taken in the handling and production of this milk has been sufficient to ensure an average count under 20,000. It is stated that this milk keeps sweet for days at room temperature.

After the first year four stations were required for the use of the city. Each station was put in charge of a trained nurse, and was provided with a table, chairs, scales, a supply of pamphlets, paper and twine for wrapping up milk bottles and a large refrigerator kept well stocked with ice. Stations were located in a small vacant store, in the window corner of a bakery, hardware store, etc., in part of a school building or police station. In the absence of advice from physicians, the nurse gave a milk mixture according to the weight, and not according to the age of the child. She instructed the mother on the care of her child along the lines of a pamphlet which had been prepared for distribution.

While the milk stations were designed primarily for the poor and those in moderate circumstances, all classes of people patronized them. To get milk, men ride for miles on bicycles and people send from surrounding lake resorts.

The article begins with a table showing the number of deaths of children for the months of July and August for the eight years preceding and the eight years following the establishment of municipal milk stations. The table may be condensed as follows:

July deaths under one year 1889-1896—784, no milk station.
August deaths under one year 1889-1896—646, no milk station.
July deaths one to five years 1889-1896—145, no milk station.
August deaths one to five years 1889-1896—169, no milk station.
July deaths under one year 1897-1904—301, milk stations.
August deaths under one year 1897-1904—347, milk stations.
July deaths one to five years 1897-1904—111, milk stations.
August deaths one to five years 1897-1904—105.

The deaths from all causes under five years of age in the city of Rochester in eight years since the establishment of municipal milk stations were less than half as numerous as those in the eight years preceding their establishment. In this connection it must be remembered that mortalities would show up to better advantage still since the city has been growing and the smaller number of deaths were from a larger population. No analysis of causes of death is given in the article.

As an experiment, the central station on a farm with one distributing point in the city is to be continued during the winter.

## The Typhoid Mortality of Cleveland in the Past Twelve Months

In a study of the monthly mortalities from typhoid fever in Cleveland in 1904,<sup>1</sup> and their comparison with the average monthly mortalities for 11 years, 1892-1902, the conclusion was reached that "in July, apparently, the effect in the contamination in the water from the old intake had entirely passed away, and we had touched the normal and better level of the new intake." With the knowledge that the typhoid mortalities of the first and second halves of each year bear to each other a fairly definite relation, the writer ventured to give estimates of the yearly mortality under the new conditions. The estimate based upon the relation between the first and second six months of the year in the registration area of the United States was 15.92 per 100,000 of the population and upon the basis of previous local experience with typhoid mortalities, 18.76.

Fourty-four deaths from typhoid from July to December, 1904, inclusive, indicates a mortality of 10.06 in an estimated population of 437,000. Twenty-nine deaths from January to June, 1905, inclusive, indicates a mortality of 6.43 in an estimated population of 451,000. Combining these mortalities we have 16.49 per 100,000 for twelve months following July 1, 1905. This mortality approximates more nearly the estimate based upon the registration area than it does upon previous local mortalities, which would be the case if the improvement in the water-supply had reduced the liability to the occurence of spring epidemics of typhoid fever, which have been so characteristic in Cleveland's history.

So much has been said in the JOURNAL in past years concerning typhoid mortalities in the various cities that only the briefest note is needed at this time. The improvement in our water supply has reduced the typhoid mortality in Cleveland to such a degree that Cleveland makes as good a showing as any large city situated on the Great Lakes. It must not be forgotten, however, that, for comparison with our own exhibit of 16.49 deaths from typhoid fever to each 100,000, there are a reasonable number of cities which secure their drinking water from unpolluted sources or employ adequate methods of filtration for polluted water which have shown for years typhoid mortalities of 3, 4, 5 and 6 per 100,000 of their population.

## Hand Sterilization

This subject of paramount interest in the matter of aseptic surgical technic was discussed in a paper by Dr Dudley P. Allen, of this city, at the recent annual meeting of the American Surgical Association. His conclusions were drawn from the results of cultures made from the hands at the close of 377 operations, and from the clinical results in 3,500 operative cases.

In sterilizing the hands various methods were employed. In series (*a*) the hands were thoroughly scrubbed with soap and nail-brush and a nail cleaner used for the nails. Harrington's solution (95% alcohol 640 c. c., hydrochloric acid 60 c. c., water 300 c. c., bichloride of mercury 0.8 gm.) was then used and the hands were encased in rubber gloves containing sterile water. In series (*b*) the preparation was similar to series (*a*) except that the hydrochloric acid was omitted from the Harrington solution as it was found to be somewhat irritant. In both of these series the cultures proved sterile. In series (*c*) after a thorough scrubbing with soap, nail-brush and water, the hands were immersed in 70% alcohol and rubber gloves containing sterile water were then put on. In 42 instances the staphylococcus pyogenes albus occurred eight times, so that alcohol of this strength was considered inefficient if sterile water containing no antiseptic was used in the gloves. In series (*d*) after scrubbing in the usual way and immersing the hands in 70% alcohol, the gloves were put on filled with 1 to 5,000 solution of bichlorid. The staphylococcus pyogenes albus was found but once in 64 cases. In series (*e*) the same technic was followed as in (*b*) except that the alcohol was omitted. Growth occurred but once in 102 observations and this proved to be the hay bacillus. In series (*f*) the same procedure was followed as in (*d*) except that a stronger solution of bichlorid, 1 to 3,000, was employed. Staphylococcus pyogenes albus was grown once in 75 cases. The method employed in series (*d*) was therefore considered the simplest and most satisfactory. Harrington's solution, although very efficient, was discarded on account of its irritant properties. The scrubbing should not be too vigorous and the nail-brush should be used only upon the hands, some softer material, such as gauze or a towel, being employed for the arms. The rubber gloves are not only a valuable protection to the patient by preventing infection of the wound from the surgeon's hands, but they seem also to protect the surgeon from infection occurring from chance needle pricks and scratches during the operation.

## An Unfortunate Move

The daily press has lately contained announcements of the opening, by the Health Officer in Cleveland, of a Tuberculosis Dispensary in the City Infirmary Office at the City Hall. The plan of dispensary routine is copied after Dr Russell's Clinic, which is run in connection with the Post-Graduate Hospital in New York City, and includes morning and evening dispensary hours, and as a prominent feature the dispensing of Russell's Vegetable Compound, a concentrated form of nourishment for tuberculous patients.

That municipal patronage should be extended to any movement against tuberculosis is certainly gratifying and most appropriate, but that the City of Cleveland should be committed to the exploitation of the methods of one man and the use of his product in the treatment of tuberculosis seems to us not only unwise, but it also puts the city in the unethical position of booming a method which savors of quackery.

It is said to be a matter of history that a so called "Cure for Drunkenness" lately extensively advertised in this city, which failed to receive the support of reputable local medical men, so interested a most honest lay member of the City Government as to cause its introduction as a method of treatment into the wards of the City Hospital. We have thus far failed to hear any brilliant results from its adoption.

To put Dr Russell and his "Compound" in any such category would be a great injustice to him, as we believe he has done most excellent work and has secured results which command attention, if his reports are to be believed. But the extensive advertising of his methods and his product has certainly not been done in a way to escape the accusation of commercialism. This point of view is supported by the fact that several months ago when approached by the present Tuberculosis Dispensary, the company which makes Dr Russell's preparation refused to supply the dispensary with the product at anything less than retail prices, a practically prohibitive cost in view of the fact that few of the patients can pay anything for their medicine. This action was in marked contrast to that of many other makers of compounds adapted to the treatment of tuberculosis, who only too gladly contributed gratis large quantities of their preparation to this charitable work.

Of the absolute disinterestedness and honesty of Health Officer Friedrich's motives we have not the slightest doubt, but

we believe he has been carried away by misguided enthusiasm. It seems a pity that if he felt so strongly convinced of the efficacy of Dr Russell's preparation, that he could not place the means for a proper trial of the product at the disposal of the already established Tuberculosis Dispensary, which has done thoroughly scientific work, rather than have the tax-payers of Cleveland help to advertise Dr Russell and his Drug Company.

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### A New Journal

At the present time, when the birth of a new journal is a matter of such frequent occurrence that it scarcely demands attention, it is a pleasure to see the first numbers of *Surgery, Gynecology and Obstetrics*, an international magazine published monthly by the Surgical Publishing Co., of Chicago. Dr Franklin H. Martin, the managing editor, is ably supported by an editorial staff of leading men of Chicago and by a large number of collaborators in the various cities of the United States.

The second number of the first volume is now before us and if the standard it exhibits be maintained, the success of the new publication is assured. Not only are the original articles of value but the general appearance of the work is most excellent and the typographical work and illustrations are of the best. The new journal has our hearty good wishes for the success which it clearly deserves.

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### Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

#### Epilepsy:

In *American Medicine*, for July 22, Thomas P. Proset believes the most important drugs to ameliorate epileptic seizures are still the bromids. Their use in epilepsy depends upon the fact, recently established by experimentation, that the preparations of the bromids locally applied diminish cortical irritability, and there is no other drug among all those which have been more or less used in epilepsy which has a like effect. Since the introduction of the bromids, there has been no advance in the treatment of epilepsy comparable to the so-called hypochlorization method of their administration, introduced recently by Toulouse and Richet of France. While still in the experimental stage, this principle or some one of its modifications forms one of the most important advances in the therapeutics of epilepsy. The effect of bromid depends not upon the amount of bromid taken into and eliminated by the system, but upon the amount retained by the tissues, and these authors substituted sodium bromid for sodium chlorid in cooking and at table substituted the bromid for the chlorid salt. This method has been some-

what modified, and the salt starvation method of Clark is the most practical. The patient receives a dosage of sodium bromid at regular intervals, say three times daily after meals, while the meats and vegetables are either unseasoned or but slightly so with salt, unsalted butter may be used, and with this method a certain amount of the bromid may also be given as a condiment with each meal or the entire dosage may be taken in the usual manner after meals. This principle may be modified to suit existing conditions, and is particularly useful since it obviates the necessity of high dosage, and this is a valuable feature in those who bear the bromids badly. He finds the so-called bromidin of Merck of special value in epilepsy. It is a 10 percent solution of bromin in oil of sesame, and is especially of value as it does not irritate. Its slightly laxative effect is a distinct advantage where constipation exists, as is often the case with children. It may be emulsified and flavored if there should be objection to its taste.

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**Hemorrhoids:** In *Medicine*, for August, it is stated that while palliative treatment will not cure hemorrhoids, it will render great comfort for a longer or shorter period without incapacitating the patient, which is just what most people seek, and all that is required in many cases. Some people experience only temporary discomfort when the liver is congested, and these particularly will not submit to an operation. In these cases it is necessary to remove the cause—alcohol, want of exercise, irritating food and the like; to restrict the diet, and to insist on regular exercise; and to give a course of Carlsbad salts, following this by the ingestion of bichlorid of mercury  $1/20$  of a grain after each meal. Constipation must be prevented; a good medicament for this purpose is cascara evacuant. After restoring a prolapsed hemorrhoid and injecting water, an astringent suppository will be of value. Those made up with oil of theobroma, and containing adrenalin chlorid, are undoubtedly most serviceable. By virtue of its vasoconstrictor action adrenalin influences directly the engorged vessels, and promptly counteracts the turgescence. To dispel the pain incident to defecation, an ounce of linseed oil may be injected after each stool. When the "piles" prolapse, and are much inflamed, Allingham's ointment may be applied; this consists of extract of conium and extract of hyoscyamus, each two drams, and extract of belladonna, one dram, in an ounce of cosmoline. If the "piles" are protruding and reduction cannot be effected, give a hypodermic of morphin and apply hot poultices. Adrenalin chlorid solution has been successfully applied to irreducible hemorrhoids. Morse advises that a tampon of cotton-wool soaked in a solution of adrenalin chlorid solution 1 to 2000 be placed in contact with the most turgescent part of the hemorrhoids.

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**Nephritis:** F. C. Shattuck, in *Medical News* for July 29, says that drugs are absolutely powerless to affect the kidneys in nephritis. Hence the necessity for treatment without medicine. The kidney in nephritis needs rest more than anything else, but absolute rest is impossible because the rest of the system would not stand it. There must, however, be just as little kidney function demanded as possible. This limitation of kidney function must be kept up for as

long a time as is possible without injury to the individual. He believes that for 25 years the almost universal acceptance of a rigid milk diet for nephritis was a mistake. The other mistaken notion was the use of too much water. Water was considered to be the best diuretic, and caused a flushing out of the system. Unfortunately, however, the water did not always find its way out through the kidney, and consequently there was an increase of blood pressure which made conditions worse than they were before. The most important thing in the treatment of nephritis is careful individualization. In theory a treatment may be very good but works very badly in practice in a particular case. Diet lists in general find their best resting place in the fire. Other organs must always be considered as well as the kidneys. The doctor must be his own prescriber of food as well as of drugs. Von Noorden has shown that it is an error to give too much water, even in nephritis, when there is no dropsy. It leads to a strain of the left ventricle. In all cases the amount of fluid ingested must be regulated by the amount of urine excreted. As soon as there is any tendency to accumulate, then the amount of fluid taken must be lessened.

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**The Pharmacopoeia:** The eighth decennial revision of the Pharmacopoeia, which is official from September 1st, 1905, embodies quite a number of changes which have been summarized in the Government Hygienic Laboratory Bulletin No. 23, by Reid Hunt and Murray Galt Motter. As regards terminology, "phenacetin" becomes official under the title of *acetphenetidin*, the name showing at once that it belongs to the great group of phenetittin compounds. "Aristol" is admitted as *thymolis iodidum*, showing it to be an iodin compound of thymol. "Hexamethylene-tetramin" which is sold on the market as *urotropin*, *uritone*, *formin*, *aminoform*, *cystamine*, *cystogen*, and *anynonio-formaldehyde*, now becomes official under the name *hexamethylenamina*. "Acidum carbolicum" becomes *phenol*, while the composition of "salol" is shown by its new official name *phenylis salicylas*. A number of very important changes have been in the strength of certain of the preparations. It is well to remember that the strength of tincture of aconite has been reduced from 35 percent to 10 percent, and the tincture of veratrum from 40 percent to 10 percent. The great majority of the tinctures are now of either 10 or 20 percent strength; the most noteworthy of those of the 10 percent class being, besides aconite and veratrum, digitalis, squill, strophanthus and cantharides. The tincture of strophanthus thus is now double its former strength having been increased from five to 10 percent. A large number of synthetic remedies have been added and "diphtheria antitoxin" is now official under the name of *serum antidiphthericum*, and a definite American standard for it has been fixed. Tannate of pelletierin has been added, its average dose as a taenicide being 0.250 gram (4 grains). The effervescing citrate of magnesia has been dropped, and *magnesii sulphas effervesens* takes its place. Both sulphonal and trional are now official, *sympus hypophosphitum cum feno* (U. S. P. 1-90) is dropped, and replaced by the *sympus hypophosphitum* compound which contains five hypophosphites, hypophosphorous acid, quinin and strychnin. Of articles formerly official a large number have been discarded, while the new ones added number 117.

**Uremia:**

The *Alkaloidal Clinic*, for August, calls attention to benzoate of sodium as one of the most efficient remedies in uremia. If given in full doses at hourly intervals and as soon as the first symptoms of uremic toxemia appear, there will be within a few hours a marked change for the better. If convulsive symptoms have appeared these soon cease; albumin disappears from the urine, and the patient falls into a deep sleep from which he awakens later, conscious and feeling more like himself. At first three or even five grains may be given for a few doses, then two grains every hour for three or four hours and then the effects may be maintained with one grain every 60 minutes. If at the same time a wet pack and hypodermic of pilocarpin be used the result will be almost positively satisfactory. Salines should be used to full effect. Collapse should be guarded against, and if the patient is unable to take the remedy by the mouth, it may be given by the rectum dissolved in hot water.

**Pruritus Ani:**

Lewis H. Adler, Jr., in *New York and Philadelphia Medical Journal* for July 29, believes that in all cases of pruritus ani, more or less varicosity of the hemorrhoidal vessels exists: the patient should be seen daily for a time, and from one to two or two and a half drams of the following prescription injected into the cavity of the rectum:

R	Fluid extract of hamamilis .....	.2 ounces
	Fluid extract of ergot .....	.2 drams
	Fluid extract of hydrastis.....	.2 drams
	Compound tincture of benzoin .....	.2 drams
Shake well before using.		

The patient should be advised prior to using this injection, that a desire to evacuate the bowels will occur as a result of its use, but that if he will remain quiet the sensation will quickly disappear. This feeling is probably due to the alcohol in the fluid extracts. Upon the first visit, if the skin has a very rough and dry appearance, he paints the entire surface for several inches outwards with a concentrated solution of silver nitrate (.960 grains per fluid ounce). If any abrasion or break exists in the skin a five percent cocain or uecain solution should be applied, and in these cases the use of a strong silver solution is not nearly so painful as that of the weaker solutions. The silver may require repeating two or three times before the desired effect is obtained, not oftener, however, than every fourth day; by its use the skin becomes supple and healthy looking. On thereafter applying the silver, and thereafter except the day when a fresh application of silver is employed, the anus and the cutaneous parts for a distance of about two inches round the orifice should be liberally coated with the officinal citrine ointment (*unguentum hydrargyri nitratis*). The ointment he uses full strength. Over the salve a wad of absorbent cotton should be placed varying with the patient's wishes and comfort, and kept in place by a T. bandage. It should be kept on all day and over night. Should the skin about the anus become tender or sore from the ointment, calomel ointment should be used till tenderness disappears. The patient should be cautioned not to rub or scratch the parts.

**Sulphur:**

In the *Medical News* for August 12, Louis Kolipinski calls attention to the value of sulphur in chronic nasal catarrhs. The specialistic treatment of the chronic nasal catarrhs require knowledge, skill and the acquired technic of practice, and must properly remain the domain of him who has fitted himself in the treatment of suitable and selected cases, yet when these are provided for, the multitude of milder, latent, indolent and apathetic subjects is left without relief, and as a remedy for common use he recommends sulphur. The best galenical precipitatum U. S. P. a light impalpable powder which by sufflation may be widely diffused through space. In treating the several forms of chronic nasal catarrh, it is his custom to have the patient seated with head erect, and the mouth open. The anterior nasal cavity is exposed with a speculum, the tip of the nose elevated, and the sulphur freely and thoroughly blown in with a strong powder blower. This has been properly done when the powder appears from mouth and opposite nostril, and an irritative cough results. The treatment is repeated upon the other side. The posterior nasal space and nasopharynx may also be treated directly by way of the floor of the nose and fauces. These applications are made two or three times a week for a month and once a week for the next two months. The local sensations of the sulphur are not unpleasant. With this method a considerable number of cases have been cured, and the results seem uniform. Success, of course, requires a suitable selection, those in which there is no other primary nasal disease, deflection, deformity or growth requiring surgical methods. The immediate effects of the sulphur are to check the purulent irritating nasal discharge, heal the excoriations, improve the patient's pale and languid looks, and stop the sniffling, sneezing, crust formation and odor. It is not adapted to acute nasal catarrh coryza.

**Pneumonia:**

L. D. Wilson, in *Merck's Archives* for August, refers to the use of heart stimulants in pneumonia and mentions quinin as possessing value and improving the general condition. Among the direct heart stimulants recommended, pure camphor two-thirds to one and a half grains, in pure olive oil, hypodermically, is strongly advocated in threatened collapse. Strychnin, digitalis, ammonia and alcohol are all appropriate in this condition. When pulmonary edema is to be dealt with, in addition to these remedies caffein is of great use. If he were limited to a single remedy in this condition, he would give it the preference, but given in conjunction with ammonia and alcohol, the benefits are frequently surprising. What is especially to be emphasized is the importance of rest, and the prohibition of muscular exertion, sometimes even to forbidding the patient to turn in bed without assistance.

**Coca:**

Beverly Robinson, in the *American Journal of the Medical Sciences* for June, believes that no drug has the same value at times in the control of the neurotic heart as coca. The great difficulty is to obtain an official preparation which has any real value. This depends upon several causes. The wrong leaf is sometimes used, or it may be gathered at the wrong season when relatively inert, and does not contain much or scarcely any of the tonic alkaloids of coca, and it may be medicinally worthless as a nerve tonic. He does

not advise, however, the too long or too frequent use of coca in the treatment of neurotic heart. It is more particularly as a temporary help, when help however is most needed, and sought for, that it should be used. Under these circumstances neither alcohol, ammonia, strychnin, digitalis, nitroglycerin, nor any other drug will be so soon and so distinctly valuable as coca. When pain, dyspnea, palpitation, small frequent irregular pulse and weak heart, follow closely upon acute infectious disease, as pneumonia, typhoid fever, and notably la grippe, the best preparation of coca are simply invaluable.

### Council on Pharmacy and Chemistry

The Council on Pharmacy and Chemistry of the American Medical Association met at the Hollenden Hotel, in Cleveland, on the 11th and 12th of September. The following members of the Council were present: Geo. H. Simmons, chairman, Chicago; C. Lewis Diehl, Louisville; C. S. N. Hallberg, Chicago; Robt. A. Hatcher, New York; L. F. Kebler, Washington; F. G. Novy, Ann Arbor; W. A. Puckner, Chicago; Saml. P. Sadtler, Philadelphia; Torald Sollman, Cleveland; Julius Stieglitz, Chicago; M. I. Wilbert, Philadelphia. Several members of local profession were present as guests of the Council.

The ten rules adopted by the Council at the time of its organization were discussed. The leading manufacturing chemists were represented and presented certain minor changes which were agreeable to the Council. The progress of the work since the last meeting of the Council in Pittsburgh was also considered.

The Council's findings will be published in book form next year. It will consist of two parts, the first will deal with simples and synthetics, the second with mixtures and their formulae.

### Academy of Medicine of Cleveland

The thirtieth regular meeting of the Academy was held at 8:00 p. m., Friday, September 15th, in the Assembly Room, Hollenden Hotel. The program was as follows: 1. Exhibition of Duverney's Anatomy, published in 1745, Dr F. E. Bunts; 2. Report of a Case of Abscess of the Frontal Lobe of the Brain, Dr John C. Darby; 3. Diabetes Mellitus, with Presentation of Cases, Dr John P. Sawyer; 4. Some Serious Accidents and Complications following Operations, Dr C. A. Hamann.

CHAS. J. ALDRICH, M. D.,  
President.

CLYDE E. FORD, M. D.,  
Secretary.

### Alumni Association of St. Alexis Hospital

The regular monthly meeting of the Alumni Association of Resident Physicians of St. Alexis Hospital was held September 7th, 8 p. m., at the Hollenden Hotel. Program: Bronchitis in Children, Dr Chas. E. Ward; Tendencies in Medicine Today, Dr William Clark.

THOMAS J. CALKINS, M. D.,  
Secretary.

JAMES E. COGAN, M. D.,  
President.

## Book Reviews

A Text-Book of the Practice of Medicine. For Students and Practitioners. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; Laureate of the Royal Academy of Medicine in Belgium and of the Medical Society of London. Author of A Text-Book of Practical Therapeutics; A Text-Book of Practical Diagnosis, etc. In one very handsome octavo volume of 1120 pages, with 129 engravings and 10 full-page plates in colors and monochrome. Cloth, \$5.00 net; leather, \$6.00 net; half morocco, \$6.50 net. Lea Brothers & Co., Philadelphia and New York, 1905.

Hare's works upon Practical Therapeutics and Diagnosis have both been so long well known to medical students and to the profession that the appearance of a volume devoted to the theory and practice of medicine, from this author, has been looked upon with great interest and expectancy. This work by Dr Hare bears evidence, in the consideration of every subject, of the author's wide practical experience, and is an admirably clear presentation characterized throughout by the essentially practical nature of the text. This was, indeed, to be expected. The usual classification has been followed, and there is everywhere a sufficiently complete reference to the bibliography in discussing the various topics. It is, however, in the sections devoted to symptomatology, diagnosis and treatment that the great value of this work will be found and appreciated by the student. The author is to be congratulated upon this volume devoted to medicine, which completes in a most satisfactory way the field covered by his two standard works already so widely and well known. The illustrations are numerous, while the typographic work throughout is excellent.

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Malaria, Influenza, and Dengue. By Dr J. Mannaberg, of Vienna, and Dr O. Leichtenstern, of Cologne. Entire volume edited, with additions, by Ronald Ross, F. R. C. S., F. R. S., Professor of Tropical Medicine, University of Liverpool; J. W. W. Stephens, M. D., D. P. H., Walter Myers Lecturer in Tropical Medicine, University of Liverpool; and Albert S. Grünbaum, F. R. C. P., Professor of Experimental Medicine, University of Liverpool. Octavo volume of 769 pages, fully illustrated, including eight full-page plates. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$5.00 net; Half Morocco, \$6.00 net.

No happier choice could have been made for the editorial supervision of this volume of the Nothnagel series than the selection of Professor Ross, of the University of Liverpool, and his associates, Drs Stephens and Grünbaum.

Of all the volumes of this series which have thus far appeared, none has shown greater evidence of careful revision or a more sympathetic rendering of the original text into English than this volume devoted to malaria, influenza and dengue.

Dr Mannaberg's authoritative and exhaustive monograph upon malaria has lost none of the force of the original and has an added value in the careful annotations and additions that have been made by the English translators.

The chapters devoted to malaria in its relation to the mosquito, by Dr Stephens, constitute one of the most interesting and valuable parts of

this work, and are a scientific contribution to this immensely interesting subject which no one can fail to appreciate. So numerous have been the researches in this special field, that in order to form anything like a correct estimate of the *status quo*, the student has had to turn to innumerable contributions scattered throughout the literature in all languages. In this monograph by Stephens we have not only the relation of the mosquito to malaria, but the biology and life history of the various species presented in the light of all the work done along this line, in a way that could not be improved upon.

As indicative merely of the immense proportions to which the literature upon malaria has grown, as well as the importance of a thorough and comprehensive knowledge of the disease in all its manifestations, it is interesting to note that by far the larger part of this volume is devoted to the subject of malaria and that every one of the 500 pages can be read with great interest and profit. The bibliographic list given at the conclusion of this part of the volume covers 20 pages of closely printed references, arranged alphabetically, and may be truthfully said to fairly represent the immense amount of work devoted to this important subject.

The remaining part of this volume is devoted to a consideration of influenza and dengue, a no less important subject, if less interesting in its dramatic development historically and biologically. To those who have never studied the history of influenza, it may come as something of a surprise to learn that the epidemics of the year 412 B. C., mentioned by Hippocrates and Livy, are believed by some historians to have been influenza, though the first noteworthy outbreak is recorded in the year 1510, since which time, with remarkable waves of pandemics, it has been known over the whole civilized world.

Dr Grünbaum has been most successful in his translation of Leichtenstern's classical monograph, which even today, seven years since it first appeared, is perhaps the most complete description we have of this extraordinary symptom-complex.

The monograph upon dengue, though of less direct interest to the inhabitants of the temperate and north temperate zones, is no less exhaustive than that upon influenza and malaria, and will be read with great interest by all students of the subject. A very complete index concludes this volume which more than sustains the high character of the earlier volumes of this series.

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Diseases of the Blood (Anemia, Chlorosis, Leukemia, Pseudoleukemia).

By Dr P. Ehrlich, of Frankfort-on-the-Main; Dr A. Lazarus, of Charlottenburg; Dr K. von Noorden, of Frankfort-on-the-Main; and Dr Felix Pinkus, of Berlin. Entire volume edited, with additions, by Alfred Stengel, M. D., Professor of Clinical Medicine, University of Pennsylvania. Octavo volume of 714 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$5.00 net; Half Morocco, \$6.00 net.

This volume on the diseases of the blood, the ninth in the series of Nothnagel's practice to be published in English, is edited by Dr Stengel. Dr Stengel's work in the field of hematology qualifies him peculiarly to the editorial supervision of this volume, and his wide experience as a clinician has made it possible for him to carry out the translation of the

German text with a rare philosophic judgment, nowhere in medicine of greater importance than in estimating the true balance between theory and fact in the many debatable, and still disputed, points of this most important subject.

The monograph upon the histology of the blood, both normal and pathologic, is by Ehrlich; while the subject of the clinical features of anemia is described by Lazarus. Von Noorden, of Frankfort, contributes the essay upon chlorosis. Pinkus, that upon lymphatic leukemia, and Lazarus the final monograph upon myeloid leukemia.

In the translations of these monographs the force, character, and meaning of the German text has been preserved to a remarkable degree, and the editor is to be congratulated upon the success with which he has so frequently rendered the somewhat difficult idiomatic original.

Throughout the volume the evidences of a careful and appreciative revision are apparent and the many additions and annotations enhance immensely the value of the work.

We would call special attention to the chapter devoted to pseudo leukemia, to the masterly way in which the many groups of symptom-complexes so constantly confused have been carefully described, classified and, as it were, put in order, so that an intelligent grasp of the whole subject becomes really possible.

Only such methods of technic as seemed really important have been included in the text, as this work is in no way intended to supplant textbooks on clinical hematology, but constitutes rather an exhaustive discussion of the subject considered both from the morphological and clinical standpoint and must remain in the future, as in the past, the authoritative work upon this subject.

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Physical Diagnosis. By Richard C. Cabot, M. D., Instructor in Medicine in Harvard University. Third edition, revised and enlarged. With five plates and 240 figures in the text. New York: Wm. Wood & Co., 1905.

Dr Cabot's work on physical diagnosis has long been known and recognized as the standard text-book upon this subject. In this last edition the author has increased materially the size of his volume, taking up the consideration of diagnosis as applied to the various branches of clinical medicine, an addition which adds much to the completeness of the work. There is no text-book upon physical diagnosis which seems, to us, to cover the ground in the same careful thorough way as has been done in this volume. It is a work which should be in the hands of every student of medicine.

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Atlas and Text-Book of Topographic and Applied Anatomy. By Prof. Dr O. Schultze, of Würzburg. Edited, with additions, by George D. Stewart, M. D., Professor of Anatomy and Clinical Surgery, University and Bellevue Hospital Medical College, New York. Large quarto volume of 187 pages, containing 25 figures on 22 colored lithographic plates, and 89 text-cuts, 60 in colors. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, \$5.50 net.

This is one of the most satisfactory volumes of descriptive anatomy that we know. The work met with great favor in Germany and it is undoubtedly true that it will find a like reception in this country. It is,

as the author states, not a work written essentially for the anatomist, but for one who wishes to renew the important points of anatomy, and it contains only the essentials of regional anatomy, omitting the exceptional or relatively unimportant details. No claim is made for anatomical completeness, but we believe that nothing has been sacrificed by omitting these irrelevant points. The illustrations throughout are extremely clear, and the color plates unusually fine, all important anatomical relationships being given both in detail and in cross section. This is a volume which should prove of real value to physicians in general, and a work of great help to the student.

Hall's Physiology. A Text-Book of Physiology, Normal and Pathological. For Students and Practitioners of Medicine. By Winsfield S. Hall, Ph. D., M. D., (Leipzig), Professor of Physiology, Northwestern University Medical School, Chicago; Member of the American Physiological Society; Member of American Association for the Advancement of Science, etc., etc. New (2d) edition, revised and enlarged. In one octavo volume of 795 pages, with 339 engravings and three full-page colored plates. Cloth, \$4.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

This, the second edition of Dr Hall's work on physiology, has been carefully revised and enlarged by the addition of very valuable chapters bearing upon the relationship of physiology to clinical medicine. Among the various works upon physiology there is no volume which takes up the subject in quite the way that they are treated by Dr Hall. The various specific topics, as, for instance, circulation of the blood, digestion, pathologic digestion, metabolism, pathologic metabolism, etc., being carried through from their very origin to the ultimate end-stages with an unusually clear description of the various steps concerned in the process. This arrangement and classification give to Dr Hall's volume a distinguishing feature and add much, in our judgment, to the value of the work as a volume of reference for the busy physician. The text is clear and lucid, and the author has incorporated everywhere the latest researches upon the subject, so that the volume is essentially modern and contains the latest accepted views of the research workers in this country and abroad. We can enthusiastically recommend this volume as a most desirable work for both students and physicians.

Handbook of Anatomy. Being a complete Compend of Anatomy, Including the Anatomy of the Viscera, and Numerous Tables, by James K. Young, M. D., Professor of Orthopaedic Surgery, Philadelphia Polyclinic; Clinical Professor of Orthopaedic Surgery, Woman's Medical College of Pennsylvania; Instructor in Orthopaedic Surgery, University of Pennsylvania; Fellow of the College of Physicians of Philadelphia; Fellow of the Philadelphia Academy of Surgery; Fellow of the American Orthopaedic Association; Member of the American Medical Association, etc. Second edition, revised and enlarged. With 171 engravings, some in colors. Crown octavo, 404 pages, extra flexible cloth, rounded corners, \$1.50 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

The present edition of this manual is, in our judgment, much improved by the increase in the size of the pages and the arrangement of the illustrations. It is one of the most satisfactory synopses of human anatomy which we know.

Saunders' Pocket Medical Formulary. By William M. Powell, M. D., author of "Essentials of Diseases of Children"; Member of Philadelphia Pathological Society. Containing 1831 formulas from the best known authorities. With an appendix containing Posological Table, Formulas and Doses for Hypodermic Medication, Poisons and their Antidotes, Diameters of the Female Pelvis and Fetal Head, Obstetrical Table, Diet-list, Materials and Drugs used in Antiseptic Surgery, Treatment of Asphyxia from Drowning, Surgical Remembrancer, Tables of Incompatibles, Eruptive Fevers, etc., etc. Seventh edition, revised. In flexible morocco, with side index, wallet, and flap. \$1.75 net.

This, the seventh edition of Saunders' pocket medical formulary, has been enlarged by the addition of over 450 new formulas, while a number of less satisfactory and obsolete formulas have been excluded. The mechanical make-up has been improved by the use of a thumb index, and the appendix includes various tables and medical aphorisms, adding considerably to the value of this volume, which is one of the most satisfactory medical formulary published.

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Diseases of the Eye and Ear, by Alling, Griffin and Pedersen. The Medical Epitome Series. Diseases of the Eye and Ear. A Manual for Students and Practitioners, by Arthur N. Alling, M. D., Clinical Professor of Ophthalmology in the Yale University, Department of Medicine, New Haven, Connecticut, and Ovidus Arthur Griffin, B. S., M. D., Late Demonstrator of Ophthalmology and Otology, University of Michigan, and Oculist and Aurist, University Hospital, Ann Arbor, Michigan. Series edited by Victor Cox Pedersen, A. M., M. D. Lea Brothers and Company, Philadelphia and New York.

This little volume of 230 pages devotes about 125 pages to the eye and the balance to the ear. It is one of the series known as the "Medical Epitome Series." There may be a demand among a certain class of medical students for so much knowledge in a nut-shell but it appears rather like condensation over condensed. Such books may serve some purpose to the students of the writers of the volume but the general medical student would do well to avoid such an extremely condensed edition and equip himself with a larger and more thorough text-book. In the attempt to condense the subject the writer is apt to make a misleading or even erroneous statements, as for example, when he gives the treatment of membranous conjunctivitis and the local treatment of diphtheritic conjunctivitis the same as gonorrhreal conjunctivitis. A few illustrations have been scattered through the book. The subject matter has been carefully paragraphed and heavy faced type has been judiciously used so that the publisher's part is well done.

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We have recently received from the H. K. Mulford Company, of Philadelphia, a chart embodying, in concise form, the important changes in the eighth revision of the U. S. Pharmacopeia which became official on September 1, 1905. These various changes are noted and compared with the 1890 Pharmacopeia, and the chart forms a most convenient little work of reference. The firm is also preparing a small folder of similar character, suitable for pasting in prescription book, and a copy of either or both will be promptly sent to any member of the profession upon request.

## Medical News

I. J. Kerr and B. F. Hambleton have opened joint offices in "The Keenan Building" at the corner of Euclid and Tennis.

W. E. Wheatley, one of the leading surgeons of the county, was recently operated on at Lakeside Hospital for appendicitis. He is also suffering from blood poisoning contracted during the operation.

Huron County Medical Society has been organized at Norwalk. D. W. Long, of Norwalk, was elected president; M. W. Bland, of Bellevue, vice-president; J. A. Sypher, of Norwalk, secretary.

The Lorain County Medical Society held its meeting, September 12, at St. Joseph's Hospital. The program included addresses by C. V. Garver, of Lorain, on "Hip-Joint Disease," and W. E. Hart, of Elyria, opened a discussion on "Tuberculosis."

The Pike County Medical Society held a regular monthly meeting at Dr Mooney's office in Piketon on September 4. Dr Flint Kline, of Portsmouth, read a most excellent paper on "Intestinal Fermentation," a special feature of the regular program much appreciated by the physicians present.

The Athens County Medical Society met in the court room, Athens, September 5. D. N. Kinsman, of Columbus, was present and gave a talk on "The Diagnosis and Treatment of Cardiac Diseases." Twenty physicians were present. The next meeting will be held the first Tuesday in October.

The regular monthly meeting of the Columbiana County Medical Society was held in K. of P. Hall, September 12, and while the attendance was scarcely up to the average, it was an interesting and profitable session. An excellent paper on "The Treatment of Carbuncle," by Dr Moore, of Lisbon, was the principal feature of the meeting. After the reading of the paper, the subject was thoroughly discussed, nearly all present participating. A number of miscellaneous topics were discussed as they suggested themselves, but there was no regular program. Those present were: J. B. Talmage, Columbiana; Alex. Cruikshank, Hanoverton; Henry J. Pelley, Dungannon; William Moore, Frank P. Moore, D. J. Jones, W. E. Morris and T. B. Marquis, of Lisbon. The next meeting of the Society will be held in East Palestine, the second Tuesday in October.

A meeting of the Stark County Medical Society was held September 19 in the mayor's court room at Canton. About 30 were present. H. C. Eyeman, from the State Hospital, of Massillon, delivered a lecture on "Hysteria and Neurasthenia," which provoked considerable discussion. Two cases were reported, one by Harry A. March, of Canton, and the other by W. C. Steele, of New Berlin. At the meeting three members were added to the list: H. Dissinger, of Canal Fulton; J. H. Tressel, of Alliance, and L. A. Buchman, of Sparta. The next meeting will be held November 21, at which time the following program will be had: Lecture, by H. M. Schuffel, Canton; discussion, by R. J. Pumphrey, of Massillon; Reports of Cases, by J. F. Hudson, Canton; Frank Pennock, of Marlboro; C. H. Goodrich, of Sandyville, and J. C. Temple, of Alliance. The names of W. D. Davies, of Osnaburg, W. S. Y. Taylor, of Alliance, C. E. Fraunfelter, of Canton, and L. A. Crawford, which were presented for membership, will be acted upon at the next meeting in November.

## Deaths

George F. Wheeler, a well-known physician of Niles, died recently.

Neal Hardy, formerly of Massillon, died at Hicksville, of heart disease.

E. J. McCollum, Tiffin's oldest physician, died recently at the age of 80.

Asa S. Allen, age 95, one of the oldest citizens of Cleveland, died September 6.

A. F. Price, a prominent resident of Fremont, died August 22, at Minneapolis, after a brief illness of appendicitis.

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## Truth, without the Poetry, Concerning Uric Acid

BY J. J. R. MACLEOD, M. B., Ch. B., D. P. H., CLEVELAND

Uric acid is the highest oxidation product of a series of substances known as the purin bodies. They derive this name from the lowest member of the series, which is called purin. The following table shows the chemical relationship of the purin bodies and their occurrence.

Purin body	Empirical Formula	Where found
Purin .....	C <sub>5</sub> H <sub>4</sub> N <sub>4</sub>	Only of chemical interest.
Hypoxanthin.....	C <sub>5</sub> H <sub>4</sub> N <sub>4</sub> O	Muscle extract and urine.
Adenin .....	C <sub>5</sub> H <sub>4</sub> N <sub>4</sub> NH <sub>2</sub>	In nuclein.
Xanthin.....	C <sub>5</sub> H <sub>4</sub> N <sub>4</sub> O <sub>2</sub>	Muscle extract and urine.
Guanin .....	C <sub>5</sub> H <sub>4</sub> N <sub>4</sub> O NH <sub>2</sub>	In nuclein.
Caffein and thein.	C <sub>8</sub> H(CH <sub>3</sub> ) <sub>3</sub> N <sub>4</sub> O <sub>2</sub>	In coffee and tea.
Theobromin.....	C <sub>7</sub> H <sub>2</sub> (CH <sub>2</sub> ) <sub>2</sub> N <sub>4</sub> O <sub>2</sub>	In cocoa.
Uric acid.....	C <sub>5</sub> H <sub>4</sub> N <sub>4</sub> O <sub>3</sub>	In urine.

Another chemical point of interest in connection with this study is that uric acid, when decomposed, yields two molecules of urea and one of oxalic acid, and that, when urea and lactic acid are heated together in a closed tube, uric acid results from the fusion. Both by analysis and synthesis, therefore, it is conclusively shown that uric acid is of the nature of diureide; that is to say, that it contains two urea molecules linked together by some molecule like that of lactic acid.

On account of this chemical relationship of uric acid to urea, it has been thought by many that the urinary uric acid is derived solely from the metabolism of proteid; that, in other words, it is

a precursor of urea. In substantiation of this theory, it was pointed out that the quantitative relationship between urea and uric acid in the urine is a nearly constant one, which we would, of course, expect to find were both these bodies derived from proteids. As a matter of fact, the quotient ( $\frac{\text{URIC ACID}}{\text{UREA}}$ ) is fairly constant when a diet of flesh alone is taken, but is quite variable on a flesh-free diet. On a flesh-free diet, the uric acid excretion becomes much smaller and remains at this low level however much the amount of flesh-free proteid is increased or diminished; whereas, on the other hand, the urea excretion runs parallel with the amount of proteid ingested. These facts show, once and for all, that the uric acid excretion cannot bear any relationship to that of urea; in other words, that uric acid cannot be derived from proteid metabolism.

One fact, however, stands out clearly from these results, namely, that flesh contains something which influences uric acid excretion; what can this be? The chemical relationship between uric acid and the other purin bodies, explained above, points to certain of these latter as possible precursors. It is now a well-established fact that hypoxanthin and xanthin are the purin bodies contained in flesh, and that these are the sources of the uric acid. Other animal food-stuffs, however, such as sweetbreads, which do not contain, in simple extracts of them, any detectable amount of hypoxanthin and xanthin, also cause distinct increase in the uric acid excretion when they are ingested. Kossel has shown that these tissues yield a large quantity of nuclein, which contains adenin and guanin, and Horbaczewski has been able to convert these amidopurins into uric acid. This he succeeded in doing by bubbling air through the mixture of spleen pulp and blood, whereby the nuclein of the spleen was acted upon by certain ferment and converted into uric acid. The process of uric acid formation from nuclein in the organism would entail, first of all, a decomposition of the nuclein, whereby, among other things, guanin and adenin would be produced, then the conversion of these into xanthin and hypoxanthin, and lastly the oxidation of xanthin and hypoxanthin into uric acid. The remaining food-stuffs, which from our table we see might be converted into uric acid in the animal body, are the alkaloids therein, caffein and theobromin.

Before considering what proportion of ingested purin reappears as uric acid in the urine, a method must be obtained for measuring that portion of purin excretion which is derived

from the tissues. In fact, we must carefully distinguish between what Burian and Schur have named the *exogenous* and the *endogenous* moieties of purin excretion, the former being the purin derived from the food, and the latter that derived from the tissues. For the determination of the endogenous moiety, we must disturb the general metabolism as little as possible by giving a diet which contains an adequate amount of nitrogen and a sufficient number of calories to prevent breakdown of the animals' own tissues, but no purin bodies. That such a diet is obtainable has been shown by Burian and Schur. The following table will explain how these authors have arrived at this important discovery.

TABLE I

(Showing 24 hours excretion of nitrogen and purin-nitrogen on various diets.)

Period	Diet	Nitrogen in diet	Nitrogen in urine	Purin-nitrogen in urine
I	Large amount of flesh .....	16.8 gr.	16.7 gr.	0.34 gr.
II	Eggs, milk, cheese, but no flesh...	16.2 gr.	15.3 gr.	0.20 gr.
III	Same as in II, but smaller amounts.	9.3 gr.	9.5 gr.	0.20 gr.
IV	Purely vegetable diet .....	9.1 gr.	9.2 gr.	0.20 gr.

(Adapted from Burian and Schur.)

It will be noted that the table is divided into four periods. During the first and second periods, equal quantities of nitrogen are given in the food, but in the first period this is largely contained in flesh and in the second period in milk, eggs and cheese. The first diet period, therefore, contains purins and that of the second period contains practically no purins. It will further be noted that the purin excretion in the urine during the first period is distinctly higher than that of the second period; the excretion during the second period being endogenous, that of the first period endogenous *plus* exogenous, and the difference between them the exogenous. In period three, in the above table, the nitrogen contained in the food is only about one-half of that of the second period, but nevertheless the purin excretion remains the same as in the second period.. The fact that the purin excretion remain constant during the second, third and fourth periods clearly shows that the diet, during these periods, can have in no way influenced the purin excretion. These findings of Burian and Schur have been amply confirmed by Siven, Rockwood, Mendel and others.

Two important laws concerning the endogenous moiety are worthy of mention here. These are, firstly, that the *endogenous moiety is constant for any one individual* provided he be living

in a physiological state, and secondly, that *this endogenous moiety may vary considerably in different individuals.* With regard to the endogenous purin excretion in different individuals, Burian and Schur have collected from the literature all the available estimations of this. These are given in the following table:

TABLE II

(Showing amount of endogenous purin excretion in 21 observations of various workers.)

0.12 gr. purin nitrogen in.....	4 cases
0.16 gr. purin nitrogen in.....	10 cases
0.20 gr. purin nitrogen in.....	4 cases

(From Burian and Schur.)

Having described how the endogenous moiety may be determined, and the fundamental characteristics of this portion of purin excretion, we may now consider the purins administered in the food and see what proportion of them reappears as purin in the urine, and whether this portion which reappears varies with the quantity of purin administered. It would take us too far to discuss these questions in detail here, suffice to say that the most practical method of investigating the question is to place the person, for some time, on a constant diet, which need not be purin-free, and then to add to the diet an accurately weighed quantity of food-stuff, the exact amount and nature of the purins in which are known; and to observe what increase occurs in the purin excretion. The following table gives the results of a typical experiment of this nature.

TABLE III.

(Showing amount and nature of purins in certain animal foods, and the proportions of these which are excreted in the urine.)

Food	Amount of purin-nitrogen in 100 grams	Nature of purin	Increase in purin-nitrogen by the ingestion of 100 grams food	Percentage of ingested purin which reappears in urine
Flesh .....	0.06 gr.	As hypoxanthine and xanthine.	0.03 gr.	50
Liver (calf) ...	0.12 gr.	As hypoxanthine and xanthine.	0.06 gr.	50
Spleen (calf) ..	0.16 gr.	As hypoxanthine and xanthine.	0.08 gr.	50
Typhus (calf)	0.40 gr.	As nuclein purins.	0.10 gr.	25
Coffee .....	0.21 gr.	As caffein.	0.75 gr.	33

(From Burian and Schur.)

It will be seen that of ingested xanthine and hypoxanthine 50% is excreted in the urine, and of guanine and adenine 25%; of caffein 30%. The amount of this exogenous urinary purin

remains constant for any given purin and is the same in all individuals of the same species, although, it must be pointed out, it is very different for animals of different species.

From the above facts, it is clear that the endogenous moiety could be *indirectly estimated*, for, if we know the exact amount of purin contained in the food ingested, and the nature of these purins, then by subtracting from the total purin excretion the amount of purin which we know—by applying the results detailed above—must have been derived from the food, we obtain the endogenous purin excretion. That this indirect method is accurate is clearly shown in the following table in which it will be seen that the indirectly estimated endogenous purin excretion agrees almost exactly with the directly estimated.

TABLE IV

(Showing how the endogenous purin excretion may be determined by the indirect method; with comparative determinations on the same persons by the direct methods.)

A	B	C	D
Total purin-nitrogen excretion in 24 hours urine	Amount of purin-nitrogen of exogenous derivation (see p. . .)	Indirectly estimated endogenous purin-nitrogen A-B	Directly determined endogenous purin-nitrogen
0.339 gr.	0.133 gr.	0.203	0.206
0.244 gr.	0.091 gr.	0.153	0.153
0.283 gr.	0.069 gr.	0.214	0.214
0.192 gr.	0.045 gr.	0.142	0.147
0.239 gr.	0.075 gr.	0.169	0.164

(Adapted from Burian and Schur.)

We have seen that of the exogenous purins given in the food only a certain fraction reappears in the excreta; that, in other words, a certain amount of purin destruction must take place in the body. This naturally makes us wonder whether the endogenous purin excretion also may not represent only a fraction of the purins actually produced in the tissues. It would be out of place here to discuss the experimental evidence bearing on this question, but it should be stated that the endogenous moiety behaves in this respect exactly like the exogenous; it represents only a fraction of the purins actually produced in the tissues. At this point there presents itself a most interesting question: why, if the organism is capable of destroying purin bodies at all, does it not destroy them entirely? The most probable answer is one suggested by Lüthje. He supposes that the purins which appear in the urine represent these purins of the blood which have been circulated through the kidneys, before coming under the influence

of the purin destroying organs. He supposes that of the purins carried by the blood to the abdomen, a certain fraction circulates through the kidneys and is excreted, another fraction through the liver and is destroyed. Burian and Schur have ably supported this theory of Lüthje's by showing that if the kidneys be excluded from the circulation no purin bodies accumulate in the blood, whereas, if both the liver and the kidneys be excluded, a considerable accumulation occurs. It is well known that the liver destroys purins, hence, when it is excluded from the circulation, the purins, not being destroyed, accumulate in the blood.

We have seen that, by multiplying the endogenous purin excretion by a certain factor varying in different species of animals, an estimate may be made of the purins actually set free in the tissues, and it must be obvious to every one that it is to a study of these endogenous productions that clinical observations should apply. Let us then, as far as is possible, see how these endogenous excretions behave under various physiological and pathological conditions. At the outset, it must be clearly understood that the endogenous moiety is not produced in the tissues of mammals by a synthetic process. In birds such a synthetic production of uric acid is of great importance. In these animals it is well known that practically all the nitrogen in the urine is excreted as uric acid and that this is produced in the organism by the synthesis of urea with some non-nitrogenous substance (see chemical introduction). All the urinary purins in mammals, then, are produced by the oxidation, etc., of other purins contained in the food or split off from the tissues. Our question therefore narrows itself down to this: from what tissues in the animal body is the endogenous moiety of purin excretion derived? We naturally think of the extractives of muscle and the nuclein of cells as the possible sources. Let us consider the nuclein of cells first.

Among the tissue nucleins which are constantly undergoing disintegration are those of the leucocytes; an increased leucolysis—cell destruction elsewhere remaining constant—should consequently run parallel with raised endogenous purin excretion. Now increased leucolysis occurs in certain forms of leucocythemia and one of the first indications of the origin of endogenous purins was furnished by the discovery of Bartels, that a large amount of uric acid is contained in the urine of leucocytic patients. In 1889, Horbaczewski, after showing that by blowing air through a mixture of spleen pulp and blood, uric acid was formed, brought forward the theory that all the uric acid in the urine was derived

from the nuclein of leucocytes. According to this view, even nuclein containing food increases uric acid excretion, only because it induces an increased leucolysis.

To prove this hypothesis, Horbaczewski made estimation of the number of leucocytes per cubic millimetre of blood removed from a peripheral vessel, and compared this result with the two-hourly uric acid excretion. He found them to run parallel.

Where leucocytosis (increased number of leucocytes) existed there was increased uric acid excretion (*e. g.*, in children, during the absorption of food, after the administration of pilocarpine, etc.); where on the other hand the number of leucocytes was subnormal, there was a subnormal uric acid excretion (after quinine, atropin). He considered his doctrine confirmed by numerous clinical observations in which a high purin excretion was associated with a peripheral leucocytosis. Even where extreme and acute tissue disintegration existed, as in inanition and phosphorous poisoning, and a hyper-excretion of purins was present, none of the latter was supposed to come from the nuclein of the tissue cells, but all of it from leucocytic decay, induced, according to Horbaczewski, by the liberated tissue nucleins. The liberated tissue nucleins acted as stimulants of leucocytic disintegration. This hypothesis was accepted as correct by nearly all workers. Even where the number of leucocytes per cubic m. m. of blood did not run parallel with the uric acid excretion; even although some observers found no increase in the latter in marked cases of leucocythemia, and others a normal uric acid excretion where the leucocytes were much diminished in amount, no one doubted the truth of the theory. By the exercise of a vivid imagination it was possible to explain away all difficulties; if the uric acid excretion were normal, but the leucocytes increased in the blood of a peripheral vessel, the increase of the latter must be entirely due to increased production, their destruction remaining constant; the former process must have been more active for some time, and the destructive forces not able to keep down the level.

Nevertheless, it must be admitted in some cases of leucocythemia, especially where the polymorphonuclear cells are increased, a very high purin excretion exists; and, in these cases, there is little doubt that increased nuclein breakdown is the source of the purins.

Mares was the first to suggest a modification of Horbaczewski's theory; namely, that the nuclein of *all* the cells in the body might furnish the purin; gland cells and tissue cells as well

as blood cells. Even did we allow this, the source could not conceivably account for the 0.3-0.6 gm. of endogenous purin contained in the 24 hours urine. For such an amount as this, nearly 100 gm. of nuclein would have to undergo destruction and an enormous daily cell destruction would have to occur. Cells, however, are too valuable in the organism to be so lavishly destroyed.

We must, therefore, seek elsewhere than to cells for the source for most of the endogenous purins, and as we have seen the *muscles* to contain a relatively large amount of purins, we naturally consider them as the most probable origin.

That such is actually the case has very recently been amply proven by Burian; for this purpose two types of experiments have been employed. In one of these, a fasting person (Burian himself) lay quiet in bed from 6 a. m. to 2 p. m. The urine was collected and its purin contents determined each hour. Between 9 a. m. and 10 a. m. muscular work was performed. It was found that, as a result of the work, a marked increase occurred in the purin excretion, affecting basic purins (xanthin and hypoxanthin), first, and the uric acid later. This increase lasted for an hour or so after the work hour, but ultimately fell well below the normal hourly average. As a result of the ultimate fall below the normal, the excretion in a day in which work was performed would be scarcely different from that of a normal day, for the fall would neutralize the rise in the total effect. It is on this account that other observers, examining the daily urine, have failed to notice any constant effect of work on the purin excretion.

In the other type of experiment, the hind legs of a dog were perfused with defibrinated blood diluted with Ringer's fluid. In this mixture no purin bodies could be found before perfusing the muscles, but a considerable amount after, and this amount was markedly greater when the muscles were excited to contract by applying a Faradic current to the spinal cord.

To sum up then: urinary purins are derived from exogenous and endogenous sources; the actual amount of both of these moieties which appears in the urine of man is about one-half the amount actually present in the blood; the half which disappears is probably converted into urea in the liver.

The food-stuffs which furnish exogenous purins are flesh, glandular structures such as sweetbreads, and certain alkaloids; the endogenous purins are derived mainly from the muscles, partly, however, from the tissue nucleins.

These well-established facts regarding this popular uric acid question are, I fear, little known. They are obscured from view by a haze of pseudo-scientific bluff. The fantastic theories of a uric acid diathesis; the visionary hypothesis, that all manner of diseases and symptoms are due to a retention of the uric acid in the body; the exhibition of uric acid solvents when at a loss for other remedies for undiagnosable complaints; all this *poetry* must give way before the *truth*. I cannot conclude this lecture without expressing the hope that, at no very distant date, clinicians will look more, than they hitherto have done, to experimental research in their difficulties. With no experimental evidence in support of it, but an overwhelming amount against it, it is almost incredible how the uric acid diathesis theory has flourished. It has had its day: *requiescat in pace.*

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## Remarks on Thyroidectomy, with Report of Cases

BY C. A. HAMANN, M. D., CLEVELAND

The experience of anyone in this country in the operative surgery of goitre must be comparatively limited, owing to the infrequency of the affection. While the term "infrequency" is used, it is not meant that the disease is so rare, but rather, that cases requiring operation are not common.

Assuming that a given case requires to be operated upon, the question of anesthesia at once comes up. I have always operated under general anesthesia, and may say at once that there has been no disturbance or ill-result of the anesthetic; ether was nearly always given, and the patient took the drug well, even exceptionally so, I have thought.

Kocher almost invariably operates under cocaine. Others, for example, V. Eiselsberg, resort to general anesthesia. It is my belief that the vast majority of cases will bear a general anesthetic.

*The Incision:* When the position and relations of the tumor allow of it—and they nearly always do—the "collar-incision" of Kocher is to be preferred, for the reason that the scar is less conspicuous, the skin is divided in the plane of tissue cleavage, and subsequent widening of the scar does not occur.

In two cases in which I made vertical or oblique incisions extending to the supraclavicular notch, the subsequent hypertrophy and contraction of the scar led to an uncomfortable

"drawing-feeling," as the patients expressed it, and the *head* could not be fully extended.

After the skin, superficial fascia, platysma and deep fascia have been divided, the question arises as to whether the pretracheal muscles (the sterno-hyoid and sterno-thyroid) shall be cut transversely, or whether they are to be separated from each other in the median line.

I believe it advisable to cut them, for the reason that better exposure is obtained. They are thinned out and practically useless; if desired, they can be sutured in closing the wound, and the drawing in and puckering of the scar that some operators speak of as occurring after transverse division do not occur.

An important point in the operation is the recognition of the proper *capsule* of the goitre. This is a thin fibrous layer which has lying just beneath it large thin-walled veins; puncturing or lacerating these veins gives rise to a very disagreeable hemorrhage, which is hard to control.

One seeks to find a place or plane of tissue, in which the mass will peel out readily, and the important point is to find that tissue plane. One cannot always depend upon the fascial layers—the tissue may be delaminated—so that several layers may exist where one only is expected.

We cut through the coverings of the goitre then, until the capsule is reached. In operations for goitre, a practical knowledge of the surgical anatomy of the part is of the greatest value, as goes without saying. It must be, however, not merely a knowledge of the "dead anatomy" as it might be called, but also of the "living anatomy," for during an operation the parts look different from what we see in the embalmed and injected cadaver. Such a knowledge can of course only be gained by seeing or assisting at, or best of all, doing operations on the *living* subject.

When the capsule is exposed the question arises: Is the thyroid to be extirpated, or is the cyst or colloid tumor to be enucleated from the surrounding thyroid tissue?

Extirpation of one lobe or of the larger part of the gland is ordinarily the more surgical procedure, *i. e.*, the operation is a cleaner one; vessels are divided only after being clamped or tied and the hemorrhage is less. One cannot tell before exposing the mass whether enucleation is feasible. If the tumor is cystic and has but a thin covering of thyroid tissue, and the rest of the gland is healthy, enucleation is preferable, and sometimes can be done with but little bleeding. Furthermore, as the thyroid vessels

do not require tying in this procedure there is no danger of injuring the recurrent laryngeal nerve.

Concerning this matter of injury to the recurrent laryngeal nerve I desire at this time to make a few remarks. In the first place it should always be determined before operation whether there is any paralysis of the laryngeal muscles; for abnormalities in the voice which may be noted after operation may have existed previously. After several operations for goitre (three at least) I have observed hoarseness for several weeks, in one case quite marked, yet I am positive the nerve was not divided, or included in the ligature; for either it was seen in the course of the dissection, and, of course, avoided, or an enucleation of the goitre was done, and the nerve was not damaged in these cases, for we were not in its immediate proximity. This hoarseness may be attributed to the bruising of the nerve, or more likely to circulatory changes, or possibly to inflammation of the laryngeal mucosa as a result of the handling of the parts and the freeing of the gland from the trachea and larynx.

The position occupied by the recurrent laryngeal nerve is quite a constant one, though its relations with the inferior thyroid artery are variable. It ascends between the trachea and esophagus and enters the larynx posteriorly, between the cricoid and thyroid cartilages.

It is in securing the inferior thyroid artery that the nerve is in danger of being injured. It either crosses this artery, or the artery crosses it, or it passes between two branches of the artery. There is no use in giving statistics as to the relative frequency of these three different positions of the nerve, for each individual operative case must be considered by itself. The safest plan I believe is to expose the parts by a careful dissection; see the nerve and avoid it.

Another plan is to expose the artery at some little distance below and lateral to the gland and tie it here, where there is no danger of including the nerve. Above all, mass ligatures are to be avoided—isolation of the artery and careful dissection are the best safeguards.

The cervical sympathetic is in relation with the inferior thyroid artery also, but for operative purposes it may be disregarded. One could not dissect it free anyhow, and injuring it would be of no material consequence.

The veins that require to be tied are the superior, middle and inferior thyroid, and often many others. The first named are nearly always to be recognized.

Especial care is to be taken in clamping the inferior thyroid veins, which do not run with the artery, but descend from the region of the isthmus, in front of the trachea, to empty into the innominate vein. It is best to tie the veins at once, after doubly clamping them, lest the instruments slip, or be torn off.

As is now well known, a portion of the thyroid gland is always to be left, perhaps a piece the size of half a hen's egg is sufficient. If all the arteries have been tied, there is not much hemorrhage in cutting through gland tissue. The cautery may be employed, or a clamp may be used, and the raw surface may be sutured.

Drainage is always necessary, for there is usually a copious discharge, which may persist for a couple of weeks or longer. After operation it is not unusual for the patient to have a non-septic fever, supposedly from absorption of the gland secretion. Indeed some writers state this fever is the rule. I have only observed it once or twice in 15 cases.

The following cases present some features of interest that seem to render them worthy of mention:

CASE I: Mrs V. S., age 26 years (operated on July 21, 1903), referred by Dr H. B. Stotter.

She had a large, bilateral vascular goitre. There were no symptoms referable to pressure, nor was there tachycardia. The growth was extirpated with the exception of a piece about two-thirds the size of a hen's egg. On the fourth day after operation she presented distinct evidences of tetany. Her fingers and wrists were flexed. The feet were in a position of equinovarus.

Trousseau's and Chvostek's signs could not be elicited. She was at once put upon thyroid extract and in four or five days there was no longer any trace of tetany. The wound healed promptly. She has had several attacks of tetany since the operation which were relieved by the administration of thyroid extract.

As is well known, tetany may come on after complete extirpation. In Billroth's clinic there occurred 12 cases up to 1890, eight of which died. After partial extirpation it is much less common, and when it does occur it appears in a much milder form. There is apparently some relation between the size of the piece removed and the frequency of tetany, *i. e.*, the larger the piece excised the greater the frequency of tetany, particularly if the portion of gland remaining is dissected.

In the case above mentioned, the part left behind was evidently abnormal, for there has been a recurrence of the growth.

CASE II: Mrs R., age 63, referred by Dr T. E. Griffiths (operated on Feb. 20, 1905).

The patient was a thin, spare woman, with chronic bronchitis and slight emphysema. A goitre had been present for many years, but had not given rise to much trouble until within two or three months prior to operation. There was no cardiac lesion, nor was there any abnormality of the voice. She had been having periodical attacks of severe dyspnea for two or three weeks before operation. Coughing would begin and then extreme dyspnea ensued. Cyanosis would be marked, pulse 140, and death seemingly imminent.

While the goitre was not very large (three or four inches in diameter) the symptoms which she presented were obviously caused by it, and therefore an operation was done, despite her age and rather poor general condition.

An ordinary colloid goitre was removed by enucleation, she took the anesthetic well, there was very little bleeding, the operation was rapidly completed and she came off the table in very good condition. During the operation it was noted that the trachea was pushed over to the right, and flattened from side to side by the goitre. It at once resumed its proper form and position upon removal of the growth.

She never regained consciousness, delirium supervened four or five hours after operation, dyspnea and edema of the lungs became marked, the temperature rose to 103° F. and she died on the third day.

The most striking features in this case *were the periodical attacks of severe dyspnea*—with intervals of complete comfort. How are these attacks to be accounted for? Why was the dyspnea not constant—inasmuch as it was certainly due to the presence of the goitre?

German writers particularly have devoted attention to the forms of dyspnea due to goitre. They allude to it as “Kropf-Asthma.”

In the mildest forms, there is slight difficulty of breathing, brought on by exertion of any sort, or by coughing which increase the congestion of the laryngeal and tracheal mucosa. In the severer forms the attacks become exceedingly grave, often at night, and are at times fatal. What causes them? Increased congestion of the mucosa and edema, greater vascularity of the goitre, or an attack of coughing may be responsible for some. When the goitre is retro-sternal these attacks are more common.

The size of the goitre bears no relation to the frequency of the attacks; there are enormous tumors which cause no respiratory difficulty, because the growth takes place away from the trachea. The increased vascularity during menstruation, and pregnancy, and sudden hemorrhages into the tumor account for some cases.

The involvement of the recurrent laryngeal nerve and consequent paralysis of the laryngeal muscles or spasm of the glottis are responsible for some cases, as those that come on during the night, without warning.

Progressive displacement, flattening and softening of the trachea account for some cases. When there has been long-standing compression of the trachea, with chronic dyspnea, and consequently more or less cyanosis, the increasing amount of CO<sub>2</sub> in the blood may cause exhaustion of the respiratory center in the medulla. The secondary involvement of the heart, *i. e.*, dilatation of the right side, must also be taken into consideration.

CASE III: Mr B., age 42, a native of Berne, Switzerland, presented a large solid left-sided goitre—6x4 inches in its diameters. There were no symptoms referable to it. The growth seemed to be movable. His general health was good. The sterno-cleido-mastoid muscle lay in a groove on the tumor.

Extrication was done, under ether. It was absolutely impossible to find a plane of tissue in which the tumor could be peeled out; in other words, there were universal adhesions. Some blood was lost, though not a great deal. He stood the operation well for a time, but suddenly the pulse failed; the enucleation was completed as rapidly as possible, though one and a half hours were consumed. Death occurred in a half hour after he was removed from the table.

Histological examination showed the growth to be an alveolar sarcoma. The fact that it was malignant accounted for the adhesions.

Death was from shock. Possibly air entered one of the veins during the operation, though the symptoms did not seem to be those of air embolism.

CASE IV: Mrs F., age 45, referred by Dr Droege.

The patient was in good general health and had no particular symptoms referable to her goitre, except occasional slight dyspnea. The goitre had existed for six or seven years; it involved the right lobe, was two or three inches in diameter, quite hard and nodular, and not adherent to the overlying structures.

For the past two years a tumor has been present upon the

right parietal bone. A year or more ago her physician incised this and profuse bleeding took place which was only controlled by packing; the wound healed. Since then the growth has increased somewhat in size. There were no symptoms such as headache or paralysis referable to the tumor.

It was a soft semi-fluctuating swelling, two inches or more in diameter and three-quarters of an inch above the general level of the skull. Pulsation could be felt at the edges. The bone under the growth had been destroyed, and the rim could be distinctly felt all round the tumor. The case was recognized as one of carcinoma of the thyroid, with metastasis to the skull, such as is occasionally seen. An illustration in Bland Sutton's work on tumors was at once called to mind.

Removal of the goitre was advised, and subsequently the neoplasm of the skull was to be attacked.

The goitre was removed on September 14, 1904, without difficulty. During the operation, at the suggestion of Dr Bunts, the external carotid artery was tied, in order to diminish the blood-supply of the tumor on the skull.

The patient made a prompt recovery. Pulsation of the skull tumor absent for a time after the operation. Dr Howard pronounced the growth a carcinoma, but subsequently, upon examining a piece of the tumor from the skull, changed his opinion to that of endothelioma.

On November 17, 1904, an attempt was made to remove the metastatic growth of the skull. It was covered by the pericranium at the edges, at any rate the bone was destroyed, and the surface of the tumor looked like thyroid tissue. Huge vessels entered its periphery, and on trying to separate the growth the bleeding was so profuse that it was necessary, after getting a piece for microscopic examination, to desist and to pack the wound. She recovered from the operation, and the tumor has since increased considerably in size. As stated the *pathological diagnosis* was endothelioma.

The above is one of the rare cases of metastasis of a malignant growth of the thyroid to the skull.

The following facts regarding these very interesting and rare metastatic tumors I have gleaned from some recent articles in *Mitth. aus den Grenzgebieten*, and in *v. Bergmann's Handbook of Practical Surgery*.

The cancer of the thyroid from which metastasis takes place may be very small, in fact it may fail to attract attention.

The growth of the primary tumor may be very slow—so may that of the secondary growth.

The secondary growth (from a primary cancer) may be like normal thyroid. Cohnheim had a case in which both primary and secondary tumors had the structure of a benign (colloid) goitre.

This is denied by Wölfler, who stated that in a case of cancer of the thyroid, the gland could for a long time develop normal follicles, and upon careful examination the cancerous portion could be found.

Honsell collected 11 cases in which both were normal thyroid gland tissue. However, the question arises, can a metastatic growth ever be considered benign? Kaufman in 1879, and Lücke in 1885, called attention to the fact that cancer of the thyroid had a special tendency to give metastases to the bones and to the lungs. Metastases to bones is most common in the skull, sternum, ilium and bodies of vertebrae—involving therefore the red marrow; the reason of this is unknown.

Such secondary tumors have been diagnosed as primary sarcoma and have been attacked—then severe hemorrhage has necessitated giving up the operation.

Pulsating sternal metastases might be mistaken for aortic aneurisms. Kraske and v. Bruns successfully removed a metastatic growth from the frontal bone, and Riedel one from the lower jaw.

These metastatic growths may perform the function of the gland.

Of 25 cases of removal of malignant goitre collected by Braun only one case remained healthy after one year, and v. Eiselsberg states that a malignant goitre is a surgical "*noli me tangere.*"

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## Retardation in the Growth of Limbs, Due to Trophic Disturbances

BY WALTER G. STERN, M. D., CLEVELAND

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A theoretical discussion as to why and how the body members grow symmetrically in size and strength is impossible, as our knowledge of this subject is almost nil. "An orderly nutrition appears in some way dependent upon nervous influences. Such an influence of the nervous system has often been spoken of as

'trophic,' but—; all biologic studies teach us that growth, repair and reproduction of living substance may go on independently of any nervous system. All that is needed to explain these phenomena (of growth and repair) is the acceptance of the view that a nervous impulse may modify the metabolic events of the tissues of the body in various ways; and, further, that the nutrition of each tissue is so arranged to meet the constantly recurring influences brought to bear upon it by the nervous system that when those influences are withdrawn it is thrown out of equilibrium: its molecular processes, so to speak, *then run loose since the bit has been removed.* And as our knowledge of the metabolic processes and of the action of the nervous system increases, these suppositions become more and more reasonable." (Foster's Physiology, Vol. II.)

That the normal growth of a normal human body is and will be symmetrical is usually taken for granted by all, although it has been pointed out by many observers that such symmetry does not hold true down to the fractions of a centimeter, and that a more or less slight difference in size between the two halves of the body seems to be the rule. Dr Crile, in measuring the limbs of healthy adults, some years ago at the City Hospital, never found a greater difference between the length of the limbs than one centimeter. A decided inequality in the symmetry of two halves of the body must then be taken as a pathologic process and may, of course, be due to a variety of conditions, such as disuse, paralysis, interference with proper nerve and blood-supply, inflammation, trauma, inequalities in pressure, etc.

It is my object to present only such cases as I have seen which do not show any gross lesions or near lying causes to which the assymmetry can be ascribed; and for the want of a better, more definite or truer term I have supposed that such causes must be "trophic."

There have been assumed to exist either separate trophic fibers in the nerve bundle, which as yet no one has isolated and which (as before quoted from Foster) are supposed to transmit to the individual cells of the body nature's demand for an actual symmetrical increase in size, number and function beyond the daily exchange which we call metabolism, or the motor and sensory nerves, as we know them, have this duty to perform as part of their ordinary functions. The reason for such hypothesis is, of course, the fact that a far distant lesion, hemorrhage or inflammation in the brain, medulla or spine can cause the particular part of the body supplied by this center to stop growing, to

atrophy. It is, of course, usual for the lesion, as in acute anterior poliomyelitis, to produce paralysis or other gross derangement of function so that the trophic and vasomotor disturbances are not so evident—for the paralysis and continued disuse of the part may, in most cases, satisfactorily explain the wasting. It has been shown that from disuse alone an atrophy of the bones becomes apparent in from six to eight weeks and is never entirely recovered from.

But there are a number of cases in which such paralysis, disuse, trauma or inflammation of the muscles, joints, nerves, cord or brain has never existed, and yet from some unknown cause, either inherited or acquired, certain members of the body have lagged behind the rest in growth or even ceased to grow, possibly for a few years only or perhaps permanently.

As examples of congenital impulse toward such retardation in growth I present the following:

CASE I: Girl, aged eight. Family history negative as to deformity, paralysis, insanity, nervous diseases, syphilis and tuberculosis. Personal history: Birth normal; it was immediately noticed that there existed only three toes on the right foot. The attending physician assures me that he made careful search for marks of amputations, of scars from amniotic bands about limbs, etc., but found both legs alike in length and circumference excepting for the loss of two toes on the right foot; the foot was also slightly shorter and narrower than the left. The subsequent history is absolutely negative excepting for usual diseases of childhood from which she always made a prompt and perfect recovery. Dentition was normal. There was never any paralysis or weakness of the limbs. She walked at the age of 14 months, and up to the age of four years had no noticeable limp or hesitation in gait. For the last four years, however, her parents have noticed that the right leg is not growing as fast as the left, the same size in shoes and stockings fitting during these four years while the left leg seems to have increased in size in a normal manner. The child walks with a limp which is becoming greater and more noticeable, causing great strain upon the right knee. To equalize the limbs she wears a shoe with a two-inch raise under right foot. Fig. I.

*Status praesens:* A well developed, bright intelligent girl; examination negative except for conditions referable to right leg. No syphilitic, rachitic or tubercular stigmata, no congenital hypoplasia of arterial system, no paralyses nor cyanoses. All reflexes and electrical reactions are normal. Walks with a marked limp of the right side. The right foot has but three toes, hallux, second and small toes, and only three metatarsal bones; tarsus is normal. The foot is one and a half inches shorter than the left; the total length of the right leg from trochanter to external mal-

leolus is two and one-half inches shorter than that of the left, while the circumference at the thigh, knee and calf is from one and one-fourth to six and seven-eighths inches smaller than the corresponding part of the left limb. There is a slight static knock-knee of the right and a corresponding outward bowing of the left leg. An X-ray photograph shows the bones of the right leg and thigh to be smaller than the left; the greatest diameter of the condyle of the right femur being two inches and the left two and one-fourth, that of the head of the right tibia one and seven-eighths, and of the left one and nine-sixteenths inches. The space

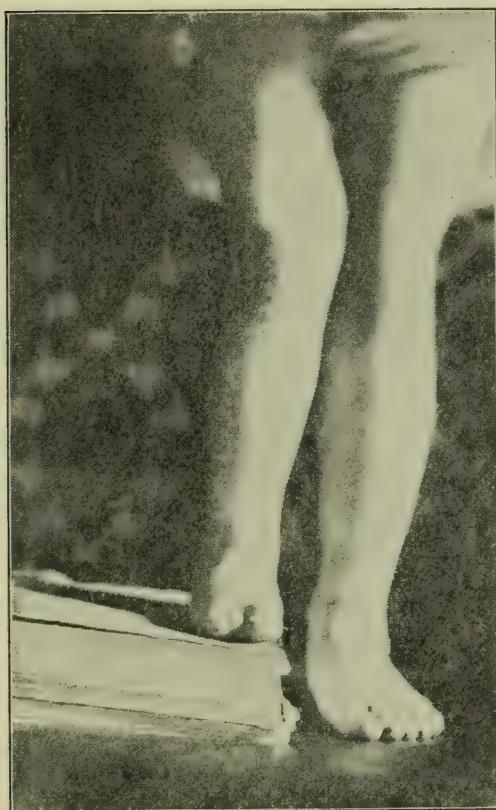


Fig. I

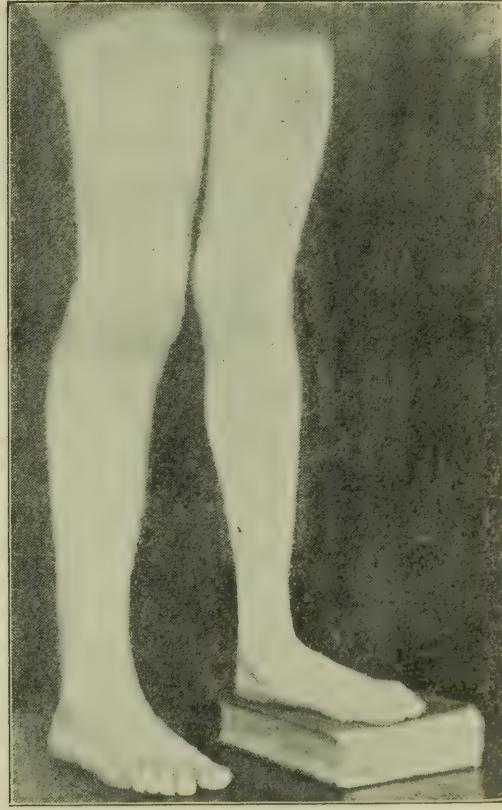


Fig. II

between the bones of the right knee, the epiphyses of both femur and tibia and the shaft of the right tibia are smaller than on the left side. There is no asymmetry of the arms or sides of the face.

I performed an osteoclasis of the right femur, which presented the genu valgum, to get whatever increase in length possible, and after the cast was removed the difference in the length between the two limbs was one and seven-eighths, a gain of five-eighths of an inch from the operation, but two years later this difference had again increased to two and one-fourth inches and, from what the parents told me recently, is still increasing. She now wears a two and one-half inch lift under the right foot to enable her to walk.

The recorded cases of such congenital impulse to retardation in growth (as by a search of the catalogue of the Surgeon General's library—a difficult matter because there is no one recog-

nized name for this condition) are few. Pixley, of Peninsula, Ohio, reports in the *Philadelphia Medical Recorder* of 1883, page 146, the case of a child born with the right side of the body (trunk and limbs) smaller than the left; the boy was absolutely normal in all other respects. At the age of four the right leg was seven-sixteenths of an inch shorter than the left, while at the age of six and one-half years this difference was one-and one-fourth inches, an increase of thirteen-sixteenths of an inch. The difference in the circumference of the limbs, that is, the volume of the muscle bodies, had tended to equalize during these two years. There were absolutely no paralyses. I am told by physicians from Peninsula that this difference between the two halves of this patient's body has steadily increased until now at 26 years of age the young man is a veritable curiosity. It is a source of regret that I have been unable to get the exact measurements.

Burrell reports (*The Boston Medical and Surgical Journal* for November 18, 1884) a number of such congenital cases. "A girl, aged nine, was otherwise perfectly developed, but the left half of the body was two or three years behind the right half in its stage of development. The face is practically symmetrical." Measurements are not given. Another "girl, age nine—no difference was noticed in the development of the halves of the body until the child began to walk. The left arm is one inch shorter than the right; the left thigh one and one-half inches shorter, the left leg and foot are each one-half inch shorter than their fellow (total shortening of left leg two inches). No difference in the development of the halves of the face is apparent."

"In a boy, aged four, who had always been well, his mother noticed a slight limp when he began to walk, the right thigh and leg together are three-fourths of an inch shorter than left. Each lower extremity is perfectly developed up to its own standard, but on comparison one notices that the right is decidedly the smaller of the two. The head and upper extremity are apparently nearly equally developed."

"Female, aged two and one-fourth years—child has always been strong—when eighteen months old began to walk and from the first with a limp. There has never been any loss in power in the limb. Measurements give three-fourths inch shortening in the left leg, there is a half-inch atrophy of the left thigh—the left foot is decidedly smaller than the right."

Paul Broca reports a boy, aged 11, as appearing "as if the

two halves of the body were of different sized persons joined together." Sumner Pixley also reports a case of congenital unilateral atrophy.

The following cases seem to have developed after acute infectious diseases without any preceding paralysis or inflammation of the veins, joints, bones, muscles or nerve structures which are the usual cause of such atrophy.

CASE II: Girl, aged eight and one-half. Family history, negative. Personal history: Was perfectly well and healthy up to the age of six, when she was taken ill with an undoubted attack of scarlet fever—another member of the family having been taken down a week before. Was in bed only four days. No complications of any kind. No weakness, paralysis or inflammation about the limbs at any time during the course of the illness. Some time after this it was noticed that the patient walked with a slight limp, and a few months later a careful examination by a competent neurologist revealed no paralysis, but the fact that the left leg was shorter and smaller in circumference than the right. From that time to the present the left leg has continued to grow shorter than the right. The left foot is decidedly smaller than the right.

*Status praesens:* Examination negative, except for the condition of the left leg. No paralysis of any muscle of the body, no signs of fracture, trauma, inflammation or paralysis of the left leg. Electrical reactions and reflexes normal. The left leg is one and seven-eighths inches shorter than the right. One and a half years later this difference had increased to two and seven-sixteenths inches; the right thigh is two and three-sixteenths inches larger in circumference and the right calf one and three-eighths. Fig. II. Active exercise, massage, baths, gymnastics and electricity have in three years lessened the difference in the length of the limbs to one and one-sixteenth inches, and the difference in the circumference of the thigh and calf each to one-half inch.

During the three years that this patient has been under my care I have demonstrated her condition to at least 50 medical men, none of whom were able to suspect, much less detect, a trace of paralysis of the muscles of the left leg. The strength of the muscles of this leg was of course very much less than that of the right. The treatment has done more to enlarge and strengthen these muscles (which are now fully as strong as those of the right side) than to stimulate growth in length, yet the latter undoubtedly is now much in evidence as the left leg has lately grown so rapidly as to reduce the difference in length from two and seven-sixteenths inches to one and one-sixteenth inches. The left foot is at present five-eighths inches shorter than the right, and fits a shoe three sizes smaller.

As carefully as I have investigated every minute detail in her history, which is entirely negative except for a four days illness

in bed from scarlatina, and as closely as I have watched and examined her physical condition for the past three years, I can find no other cause whatsoever for this gradual shortening of the left limb up to the year 1902, nor for the gradual acceleration in the rate of growth since then, than a trophic disturbance set up by the scarlet fever of five and a half years ago.

CASE III: Female, aged 16. Family history: Uncle died of paresis. Personal history: Was normal at birth, no difference in length of limbs noticed. Had brain fever (?) at the age of one year. Was ill for three weeks, during which time she had high fever, slight convulsions, no opisthotonus, no paralysis, no inability to use any member of the body. The illness left her weakened and she did not convalesce entirely until she was two years of age. For one year she crept on her hands and knees and stood while holding on to objects. Towards the close of her third year she was able to walk unassisted. So long as her parents can remember there has been a difference in the size and strength of the legs and arms, which difference is gradually getting greater.

*Status praesens:* In view of the fact that there was a possible history of brain fever (?), a most careful and searching examination of the special senses was made. Sight, speech, taste, smell, hearing, mentality, sensations of heat and cold, tactile sensations, reflexes, electrical reactions and voluntary motions are normal. No evidences of paralysis or spasms of any muscles. The only inequality or assymetry are presented in the left leg and arm. The patient walks with a noticeable limp and she brings the left toes down to the ground first. The right leg is one and one-half inches longer than the left, the entire difference being in the length of the tibial bones, which measure, the right fifteen and one-fourth inches, the left thirteen and three-fourths. The right knee and calf are both one-half inch larger in circumference than left, while the right foot is seven-sixteenths inches longer. The right arm is three-fourths inches longer than the left. No asymmetry of face.

CASE IV: Boy, aged 11. Family history: Mother is an intensely nervous woman. Personal history: Was well until two years ago when he had an attack of typhoid fever which lasted 11 weeks. This was followed by scarlet fever which left him very much prostrated and very weak. Previous to these illnesses, which lasted in all about four months, no limp, paralysis, fracture nor abnormality was noticed about the limbs. There is absolutely no evidence of phlebitis, periostitis or neuritis following his illness. During convalescence it was observed that, although the patient was greatly emaciated and the muscles almost wasted, the left half of the body was more emaciated and weaker than the right half, although he had perfect control of all the muscles of the left side. Little by little the parents noticed that the left leg from the knee downward did not grow as fast as the right,

and that patient could not wear the same size of shoes or stockings on the left foot but had always to use several sizes smaller. The parents think the difference is increasing.

*Status praesens:* Examination is entirely negative except for the condition of the left leg. No paralysis of any of the muscles of the body. There is an appreciable degree of weakness in the left gastrocnemius and peroneus longus. The patient has a noticeable limp. The left leg is at least three-fourths of an inch shorter than the right, while the left foot is one inch shorter.

	LEFT	RIGHT
Total length of leg.....	$27\frac{3}{4}$ inches.	27 inches
Femur .....	$15\frac{1}{2}$ "	$15\frac{3}{8}$ "
Tibia .....	$12\frac{1}{4}$ "	$11\frac{5}{8}$ "
Circumference at thigh .....	14 "	$13\frac{1}{2}$ "
Circumference at knee .....	11 "	$10\frac{1}{2}$ "
Circumference at calf .....	9 "	$8\frac{1}{2}$ "

The left arm is slightly shorter and smaller in circumference. The face is normal.

Another case is that of a male, aged 20, seen by me in the surgical clinic of Prof. Albert in Vienna. Family history, negative. Personal history: Was a healthy normal individual up to two years before when he had an attack of pneumonia for which he was treated in the clinic of Professor Nothnagel. The bedside notes showed an ordinary case of pneumonia of the right base which recovered by crisis; there were no complications. A photograph, taken some months before his illness, showed a normal, intelligent face with a normal symmetrically developed lower jaw. He returned to the hospital to inquire concerning a peculiar appearance of the face which has come on gradually since his illness. He had not had any trouble with his teeth, nor did he receive a fracture or any trauma upon the jaw, nor does he come in contact with phosphorus, arsenic or lead. He has grown very tall and stout in the past two years, necessitating new sizes in coats and hats, but the *lower jaw has not grown at all*.

*Status praesens, 1899:* Tall, muscular, well developed young man, presenting a very small jaw for his size (*micrognathie*); the lower teeth do not articulate with the upper and are at least one-half inch behind those of upper jaw. No necrosis of teeth or jaw. All examinations as to physical condition otherwise normal. Professor Albert and his assistants were firm in the belief that the *micrognathie* was due to a trophic disturbance of the lower jaw caused directly by some toxic agent from the pneumonia.

Dr C. J. Aldrich, of this city, has personally related to me a similar case of *micrognathie* which followed an attack of measles.

Ord, in the *Medical Press and Circular* (London) for 1895, p. 277, reports the "complete unilateral arrest of development without hemiplegia or paralysis in a girl aged 12."

Baillarger in the *Bull. Acad. de Med.*, 1856, Vol. XXII, p. 883, reports a similar case.

## An Effective Method of School Room Lighting

L. K. BAKER, M. D., Ex-Supervisor School Hygiene

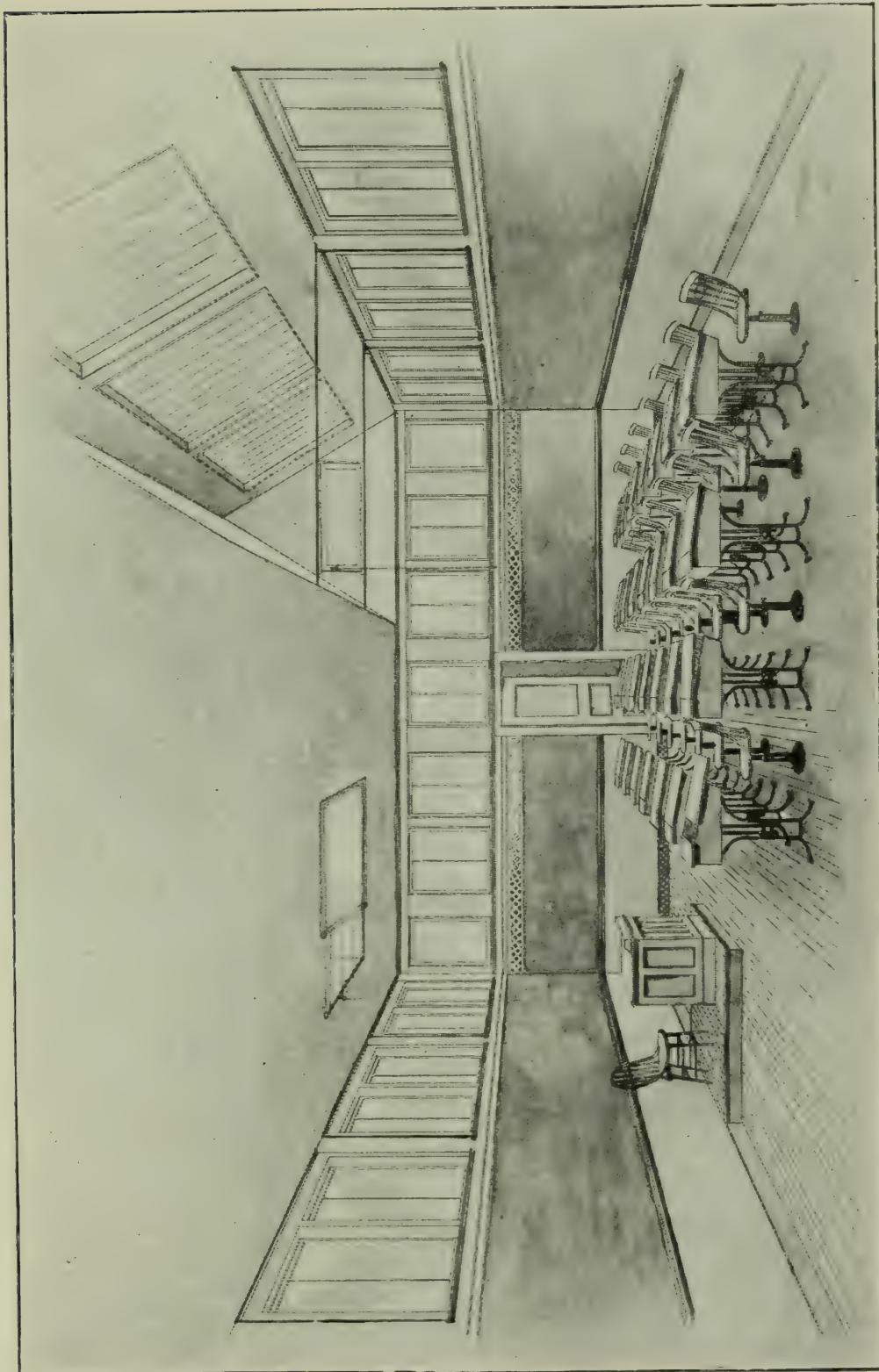
Several years ago, in conjunction with Mr L. H. Jones, superintendent of schools, the writer worked out a scheme for school room lighting similar to the plan at that time being introduced in the lighting of factories. In the case of factories this scheme prospered and many of our more recent plants now exhibit the north side saw tooth skylights. For some reason school officials seem to be much more conservative than business people and we have not yet tried and adopted the better form of lighting for the school rooms. However, by way of experiment, skylights were placed in the central rooms on the second floor at Doan St. School, situated near Superior St., and it is to the room on the west side of the building that I wish to call the attention of the profession. During the forenoon, when the sun does not interfere, it will be found to be among the best lighted rooms in the city in the following ways:

There are plenty of windows but they are all on the left side of the pupils. Hence there are no cross lights and as there are no windows in the rear of the room the teacher is not compelled to face the light continually as is the case in most of our class rooms.

The north skylight, while not large and while not properly related to the school furniture as regards direction of light, does give good illumination for those desk tops furthest from the windows which in so many of our school rooms are poorly lighted.

While not ideal, this room is worth the study of all physicians interested in the preservation of the sight of school children. Attention is called to it in the hope that the discussion may result in further improvement in school room lighting.

Referring to the cut it should be understood that what appear to be windows above the blackboards are merely chipped glass partitions. Sunlight can be introduced through a south side skylight when desirable. The seats and desks should *face* the observer, thus placing the left side of the pupils toward the large north side skylight. They were placed as here shown to exhibit the forms of adjustment of the Chandler adjustable furniture perfected for school room use in the New York Pedagogical School by Dr. Shaw. Unless very recently introduced we have no furniture the equal of this in the city schools.



SCHOOL ROOM LIGHTED BY MEANS OF A NORTH SAW TOOTH SKYLIGHT



# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
{ THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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## EDITORIAL

### “Unity, Peace and Concord”

In his valedictory address, delivered before the Medical and Chirurgical Faculty of Maryland, in April of this year (*Maryland Medical Journal*, October, 1905), Dr Osler touched upon a number of points of vital interest to every physician of the United States. Points of such great interest that we take this opportunity of calling attention to them.

After a brief introduction, Dr Osler developed his theme under the title which appears as the heading of this brief note. The aphorisms which we quote may well be placed in a niche by themselves, to be turned to again and again, even as the author of them has turned so often to Sir Thomas Brown, that great apostle of our profession—as Dr Osler loves to call him—for encouragement and inspiration.

#### UNITY

“Medicine is the only world-wide profession, following everywhere the same methods, actuated by the same ambitions, and pursuing the same ends.”

"While in antiquity the law rivals medicine, there is not in it that extraordinary solidarity which makes the physician at home in any country, in any place where two or three sons of men are gathered together."

"Linked together by the strong bonds of community of interests, the profession of medicine forms a remarkable world-unit, in the progressive evolution of which there is a fuller hope for humanity than in any other direction."

Dr Osler pays a gracious tribute to the success achieved by the American Medical Association in the consolidation and unification of the profession of this country, laying stress upon the fact that the ultimate success of its plans depends in a large measure upon the county members, and asking a charitable indulgence if the plans so broadly conceived do not at once work as smoothly as we would wish. Much has been done, he tells us, and much remains to be accomplished.

To three desiderata he refers briefly. "In this country reciprocity between State licensing boards remains one of the most urgent local needs." The second urgent need is a consolidation of many of our medical schools, and the third, "is the recognition by our homeopathic brethren that the door is open."

"We have long got past the stage when any 'system' can satisfy a rational practitioner, long past the time when a difference of belief in the action of drugs—the most uncertain element in our art!—should be allowed to separate men with the same noble traditions, the same hopes, the same aims and ambitions."

"Homeopathy is as inconsistent with the new medicine as is the old fashioned poly-pharmacy, to the death destruction of which it contributed so much."

#### PEACE

"Many seek peace, few pursue it actively, and among these few we, alas! are not often to be found."

"The physician, like the Christian, has three great foes—ignorance, which is sin; apathy, which is the world; and vice, which is the devil."

"Teaching the simple and suffering the fools gladly, we must fight the wilful ignorance of the one and the helpless ignorance of the other, not with the sword of righteous indignation, but with the skillful weapon of the tongue."

Dr Osler then alludes briefly to the lamentable fact, so constantly brought to our notice, that it is because of this ignorance

that the charlatan and the quack are able to live and to prosper so outrageously.

"Education of the public of a much more systematic and active kind is needed." How bitterly it is needed we all know.

"By far the most dangerous foe we have to fight is apathy—indifference from whatever cause, not from lack of knowledge, but from carelessness, from absorption in other pursuits, from a contempt bred of self-satisfaction."

"What consolation does the 'little red schoolhouse' afford when we know that a Lethean apathy allows toll to be taken of every class from the little tots to the youths and maidens?"

"Against our third great foe, vice in all its forms, we have to wage an incessant warfare, which is not less vigorous because of the quiet, silent kind."

"Better than any one else the physician can say the word in season to the immoral, to the intemperate, to the uncharitable in word and deed."

#### CONCORD

As Dr Osler himself tells us, few men (in our opinion none) have had more favorable opportunities than he to judge of the actual conditions prevailing throughout the country in the professional private life, in the schools, and in the medical societies. It is reassuring that we can read in his own words "as I have seen them in the past twenty years I am filled with thankfulness for the present and with hope for the future." He adds this, however: "The little rift within the lute is the absence in many places of that cordial professional harmony which should exist among us. \* \* \* It makes a very bad impression on the public, and is often a serious stumbling-block in the way of progress."

So far as his observation goes, Dr Osler tells us that there are three chief causes for the quarrels of doctors.

"The first is lack of proper friendly intercourse by which alone we can know each other. \* \* \* After all, the attitude of mind is the all-important factor in the promotion of concord."

"When a man is praised, or when a young man has done a good bit of work in your special branch, be thankful—it is for the common good."

"Envy, that pain of the soul, as Plato calls it, should never for a moment afflict a man of generous instincts and who has a sane outlook in life."

The second great cause we are told is uncharitableness.

"The most widespread, the most pernicious of all vices, equal in its disastrous effects to impurity, much more disastrous often than intemperance, because destructive of all mental and moral nobility, as are the others of bodily health, is uncharitableness."

"Oftentimes it is a thoughtless evil, a sort of tic or trick, an unconscious habit of mind and tongue which gradually takes possession of us."

"Who is there among us who does not require every day to lay to heart that counsel of perfection, 'Judge not according to the appearance, but judge righteous judgment.'"

"And the third cause is the wagging tongue of others.  
\* \* \* Fully half of the quarrels of physicians are fomented by the tittle-tattle of patients, and the only safeguard is not to listen."

After alluding briefly to the wrench in leaving America, Dr Osler adds as his parting commandment to one and all throughout the length and breadth of the land a single word, that word is—charity.

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### The Huddersfield Plan

In this age of race-suicide and high infant mortality much thought has been given the problem of combating these two conditions in all closely settled communities.

It is true; to be sure, that we are hardly justified in including race-suicide as specifically belonging in the category of preventable causes of a high infant mortality, and yet the two are, in the very nature of things, so intimately related that the one follows naturally in sequence after the other.

We all know the immense amount of good accomplished by the introduction of modern methods into the homes of the poor, through the agency of the modern charitable organizations, with their relief depots, visiting nurse associations, and the distribution of modified milk as carried out, particularly during the summer months, in many of our large cities.

In this respect it may, we believe, be truthfully said that America has done as much as any other nation to reduce the number of deaths occurring during the first year.

It has remained, however, for an English layman to suggest a wholly new and ingenious method of encouraging, not only a popular wave of feeling against race-suicide, but to introduce a new element into the fight against early infant mortality.

To the mayor of Huddersfield, England, belongs, probably, the credit for first establishing a fixed rate of money value upon

a new-born child. As an alderman of the borough of Huddersfield, Mr Broadbent originally became interested in the question of the decreasing birth-rate. When, then, a year ago he became mayor of Huddersfield, one of his first official acts was to cause a notice to be posted that he would give to each child, born in Longwood, his native village, during his year of office, a sovereign on attaining its first birthday.

As might be expected, much interest was at once aroused by this official act, and the mayor was ultimately able to persuade the Health Committee and finally the Town Council to establish a similar measure.

The present Huddersfield plan includes the payment of one shilling to the person first notifying the medical officer of health of the birth of any child within 48 hours after the event. An excellent measure, designed to encourage the early reporting of all births, and to enable the authorities to carry out the necessary subsequent measures in their altruistic project. As soon as the notice of birth is received, a representative of the health officer calls on the family, thus assuring the municipality that both mother and child are being properly cared for. Subsequently two women health-inspectors call and leave definite instructions for the care and rearing of the baby.

The mayor's somewhat unique offer consists in the following promise made over his own signature appearing on a large card, upon which is written the name of each child and the date of birth, "Twelve months after date, I promise to pay, to the parents or guardians of the above named child, the sum of one pound, on production of proof that the said child has reached the age of twelve months."

It is even said that the mayor makes it a point to visit personally each new baby!

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### Modern Army Mortality

We have called attention in a former editorial note, November, 1904, to the remarkable thoroughness with which the Japanese conducted their army medical corps during the recent war, reducing thereby the dangers to the troops in actual service to a minimum.

In many ways the war, terminated by the Peace of Portsmouth, can be justly characterized as the most humane war of history. 'Humane in every sense when considered in the light

of all that was done by the Japanese to mitigate the unnecessary evils of war.

In an address, delivered recently before the Association of Military Surgeons of the United States, Major Louis L. Seaman, U. S. V., has again pointed out the wonderful success achieved by Japan in bringing about this result.

Not the least important factors in the successful outcome of the Japanese campaigns may, according to this observer, be attributed to the simple, easily digestible ration of the Japanese forces, and to the brilliant success on the part of the medical corps in largely eliminating the entire range of preventable diseases from the army in the field. We are told that the Japanese Minister at Tokio is the authority for the figures which demonstrate that there was but one death from disease to every four deaths from bullets during the recent war. That 7.32% or 43,892 soldiers were killed on the field of battle, that 24% or 145,527 were wounded, that 9,054 or 1.51% died of wounds, and that the total number dying from all diseases was 11,992, or just 2%.

Further analysis of the figures given shows that the deaths from contagious diseases numbered 4,557, or 0.76% of the total number engaged during the war.

From these figures we find that the total killed and dead from wounds was 52,946, as against the number 11,992 dead from disease, not quite five deaths from bullets to one of disease, surely an astonishing record. We are also told that out of every unit of 100 men who went to war there were 36 who were never wounded or ill a day during a campaign of a year and one-half's duration.

This record, wholly unparalleled, is due solely to the great efficiency of the medical corps of the Japanese army, and the credit for accomplishing so notable a result must be generously accredited to the wise foresight of the Japanese government and army officials, as well as to the unselfish devotion of every medical officer of the line.

It is interesting to learn that the number of suicides during the entire war reached the somewhat appalling total of 86. Refusal of permission to accompany the colors into Manchuria, on account of some physical defect, being attributed as a cause for the majority of these, the remainder preferring death to capture by the enemy.

Difficult as it is for us to understand the mental attitude which makes it possible to consider self-destruction so trivial a

matter, it is almost harder to believe the truth of the statement that in all the history of this campaign, there was but *one* desertion from the Japanese army.

With these figures before us, it is small wonder that the victory rested with the Japanese. May the results of this war bear fruit. In our own miniature war with Spain, for every death from bullets, there were 10 deaths as a result of preventable causes.

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### A Clean Newspaper

The public and the physicians of Cleveland should consider themselves fortunate in the appearance, at last, of a daily newspaper, which has excluded every sort of objectionable advertising matter from its pages, and which exercises a censorship so rigorous that the most exacting can have no just cause for complaint.

By this action the management of the *Cleveland News* has rendered a service to public education in Cleveland, and to the elevation of our standards of public morality, so great that it is not easy to estimate it at its true value, and have further established a standard of decency and high efficiency which it is to be hoped other newspapers may in time see their way clear to follow.

We are all aware of the active agitation that has been carried on in the medical press of the country against questionable advertising in our own pages, and of the services rendered by a number of lay journals in attacking the nostrum fad, the greatest menace of the age to the public health. Great as are the evils arising from this source, and appreciating the incalculable harm done by the wide-spread sale of secret alcoholic nostrums and dangerous drugs, we have always felt that the injury to the morality of the country, arising from the loathsome advertisements which disfigure the pages of our daily papers, was infinitely greater. Both are bad, as bad as they can be, and should be stamped out and suppressed "root and branch," without fear or favor.

This move on the part of the *Cleveland News* cannot fail to be appreciated by the profession and public at large, and because of this stand, if for no other reason, the *News* should receive the earnest support of the physicians of the city of Cleveland, irrespective of the political tenets they may hold, for there is *no politics* in any matters pertaining to *public decency* and *public morality*.

### The Probate Court

We beg leave to call the attention of our readers to the letter appearing on page 504 in this issue of the JOURNAL.

To the importance of the office of Judge of the Probate Court we are keenly alive, and in the honest and efficient control of this office we should take great personal pride, for in almost no other department of the municipal government do we, as individual physicians, come into the same close relationship with the incumbent.

Dealing largely with the settlement of intricate and delicate questions relating to the control and care of the feeble and helpless in our midst, it is a post which demands the guidance of both heart and head, and in which honesty, justice and fair play should be meted out, to all alike, irrespective of party affiliations.

The letter published elsewhere in this issue appealing to the physicians of our city for their support of Judge Alexander Hadden, the present incumbent, states admirably the situation. This letter signed by a large number of the profession represents the judgment of men of wide and varied experience in close touch with the workings of the Probate Court. With the sentiments expressed in this letter the JOURNAL is in hearty sympathy.

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### School Room Lighting

The JOURNAL is glad to give space in this number to a brief description of an effective method of school room lighting. The importance of this subject has long been recognized by sanitarians, but we may say, with little fear of contradiction, that little progress has been made in the matter in proportion to its importance.

Insufficient light, light from improper directions and cross lights are serious hindrances to pupils and teachers, injuring the eyesight and lowering the quality of work from the strain imposed. However difficult the project of properly lighting a large number of small rooms, it is one that should be resolutely attacked, and improvements should keep pace with advancing knowledge.

## Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

### Tetanus:

James M. Anders and Arthur C. Morgan, in the *Journal of the American Medical Association* for July 29th, consider the treatment of tetanus under two heads, local and general. Locally, immediate medical treatment is of the highest value. The most important method is to open freely the wounds in all directions under an anesthetic, as the chief danger is in the poison that occupies the bottom of any wound or part infected. Attention is called to the great efficiency of the dried serum used as a dusting powder after thorough incision and excision of the infected wounds. As to general treatment, certain other methods, while not curative, are decidedly beneficial and comforting to the patient, the chloral and bromid treatment having been used far oftener than any other. Calabar bean has many advocates, and morphin has been much employed, but theoretically it should be used with caution and reserve on account of its inhibitory effect on the respiratory centers, as death in tetanus is usually by paralysis of respiration. As to the use of antitoxin, it has been fully tested, and as a means of prophylaxis there is uniform agreement that "antitoxin does protect" in every case. On the other hand, the present status of the serum question leaves no room for doubting that when given during a well-developed case of tetanus, antitoxin does not have any appreciable beneficial effect, neither the mortality being reduced nor recovery hastened thereby. Booth, however, has recently reported three cases in which the serum was employed, all ending in recovery. Finally, as a prophylactic measure, it is practically perfect, and should be used in every case of punctured, lacerated or other wound in which there has been a suspicion of contact with tetanized matter. The same journal advises that not less than 10 cubic centimeters of American serum should be given for prophylaxis, and the dose should be repeated. No definite limits can be given as to the amount which can reasonably be given for curative purposes.

### Uremia:

W. J. Wilson, in the *Therapeutic Gazette* for

September, summarizes the treatment of uremia

as follows: In cases of dyspnea, persistent headache, and sleeplessness, delirium, persistent vomiting, spasmodic contraction of muscles, convulsions, delirium and coma, the urine should be examined to determine whether uremia is the etiologic factor. Chloroform, chloral, the bromids, with veratrum viride, which seems to some extent antidotal to the poisons generating this condition, are the most dependable drugs to relieve the various symptoms. Morphin is to be used, particularly in cases of acute parenchymatous nephritis, and when used should be carefully watched and given in small doses on account of its bad effect on elimination. When the arterial tension is high, aconite, nitroglycerin or veratrum viride is indicated; when low, digitalis and caffein are to be used. The same journal calls attention to the fact that it has recently been asserted that the transfusion of normal or other salt solution is harmful in uremia, causing an increase in intravascular and intracranial tension, and supplying certain of the conditions necessary to the uremia seizure. The *Gazette*,

however, believes this position to be largely erroneous and asserts that one of the most remarkable things about the circulatory system of men and animals is its ability to adjust itself to varying quantities of liquid. Practically the balance of evidence seems to favor the use of normal saline solution in uremia.

**Typhoid Serum:** *The Journal of the American Medical Association*, for August 19, states that there are two methods of specific prophylaxis against typhoid, (1) the injection of antityphoid serum; (2) preventive inoculation with killed cultures of the bacilli. Antityphoid serum confers a fairly strong and immediate immunity which, however, is of short duration because of the rapid elimination of the serum. Its use as a general preventive, therefore, is not advocated. Protective inoculations have been carried on in British regiments in India and South Africa, and in the statistics which have been collected the occurrence of typhoid among those inoculated was one-half that among the uninoculated.

Bactericidal serums obtained by the immunization of horses with typhoid bacilli, have not shown distinct curative properties. Chantemesse has used his antitoxic serum in the treatment of more than 500 cases reporting a mortality of about 6%, while the untreated had a mortality of 10% to 12%. Although this would indicate some value for the serum it has had little trial outside of France.

**The Menopause:** In the *New York and Philadelphia Medical Journal* for September 23, John N. Upshur believes that the broad indication in the treatment of women at this period of life is chiefly to sustain the system in such a manner as to allay nervous irritation and supply stimulus and nourishment which will keep the patient at as nearly as possible the normal standard of health. It is an axiom not to be contradicted that *drugs are not to be administered in any case, when simpler and less active agents will accomplish the same end.* He protests strongly against the *injudicious prescription of narcotics or alcoholic stimulants*, at this time of life, because of the great danger of developing a dependence upon these agents and establishing a drug habit from the slavery of which afterwards it becomes almost, or quite, impossible to free the victim. The nervous and mental conditions of women at this time makes them more liable to the development of drug habit; combat insomnia by the administration of some form of concentrated nourishment just before the patient retires, such as hot milk, a warm salt bath is most soothing to the nervous system. Regular daily use of massage and electricity, faradic or galvanic, may be indicated. Try all simple means before resorting to drugs; when the necessity is imperative for their exhibition, *never lose sight of the fact, and at the proper time firmly and decidedly withdraw them.* The appropriate treatment of any local condition must not be lost sight of. When much ovarian irritability exists, suppositories of opium, belladonna, etc., will be of service. *Ovarian irritability must be controlled.* The bowels should be kept normal and the kidneys watched that no insidious trouble, like Bright's disease or diabetes, develop; alkaline waters are valuable in such cases. Hygienic regulation of all the functions and habits should be attended to and especially should the patient keep early hours.

**Typhoid in Children:** In *American Medicine* for September 9, W. C. Hollopeter asserts that the management of the children in typhoid fever often requires more tact than the management of the disease. The treatment should be to lessen the toxemia, and shorten the leakage in the general circulation. There is no specific as yet. Drug treatment as a rule seems to be useless, but tepid bathing has universal application. He believes two elements necessary to success in combating this disease: (1) to reduce toxemia; (2) to supply food and fluid. The first step should be quietude in a large, well-ventilated room with a calomel purge, and daily colon irrigations. Enteroclysis will reduce toxemia, lower the temperature, and supply fluid. Tympanites may be very troublesome and should be combated with colon washings. For hemorrhages, cold enemas, ice externally and perhaps ice suppositories. The diet should consist of peptonized milk and albumin water, whole milk is out of the question.

**Adrenalin Chlorid:** D. Barty King, in the *International Clinics* (Vol. II, 15th series), advises against the use of adrenalin chlorid in pulmonary hemorrhage, basing his statements both on pharmacologic and clinical observations. He states that any drug which is to affect the arrest of pulmonary hemorrhage must act either by bringing about certain conditions in the circulatory system leading to the formation of blood-clot at the site of the hemorrhage, through coagulation of the blood, or else must give rise to conditions which lower the pressure in the pulmonary blood system. There is no evidence that adrenalin chlorid hastens the coagulation of the blood, everything pointing to the opposite effect. As to its effect on the pulmonary blood-pressure, we get as a result of its subcutaneous injection a great accumulation of blood in the pulmonary system, and the result of this would be a tendency to an increase in the pulmonary hemorrhage. If we grant that the drug constricts the pulmonary arterioles, we might suppose that as long as its action lasted, the pulmonary hemorrhage would be controlled. We must, however, take into account the morbid state of the blood-vessels of the lung in which the hemorrhage usually occurs, and also the transitory action of the drug. As far as the administration of adrenalin chlorid by the mouth is concerned, although the effects are not nearly so marked, as in the case of subcutaneous injection, they are identical. It is also to be noted that as a rule the doses usually prescribed by the mouth are quite inert so far as any action on the pulmonary blood system is concerned, and this accounts for a large proportion of the cases of hemoptysis which are reported as having been "cured" by the administration of adrenalin chlorid, the fact being that in all probability the hemorrhage in these cases had undergone a natural arrest, even in spite of its administration. In conclusion, he states that everything leads him to believe that adrenalin chlorid is contraindicated in the treatment of pulmonary hemorrhage.

**Quinin:** John U. Shoemaker, in the *Medical Bulletin*, for July, regards quinin as the most effective agent among medicinal substances in allaying fever. Although its influence in continued fevers is not so pronounced as in those of a periodical type, yet

it checks fermentation, prevents putrefaction and inhibits activity of infectious germs. By diminishing tissue change it limits the production of heat, and goes far toward suppressing the cause which has produced abnormal elevation of temperature. He does not give quinin in the enormous single doses sometimes advised. These massive doses, in addition to the general depressant effect, would probably be injurious to Peyer's patches, as quinin is a gastro-intestinal irritant. The more moderate amounts, however, exert a tonic influence as well as lower the temperature. He finds it of decided service in epidemic influenza; here it is useful by alleviating the aching pain, by reducing the fever, and by its tonic action. In measles, complicated by broncho-pneumonia, it is of especial aid and the fever of croupous pneumonia is favorably influenced by it.

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**Exophthalmic Goiter:** In *Medicine*, for September, Sydney Kuh summarizes his results in the treatment of exophthalmic goiter, stating that his experience has not been sufficient to justify him in making any statement as to the curative effect of the serum treatment in this disease. He believes, however, that the serum is an excellent palliative at least; that it is not an infallible remedy is very true. One thing is very striking and that is the marked change in the subjective condition. Within a few days after taking the first dose of the serum, every one of these patients felt much better, they were less nervous, appetite was improved, and there would be other changes at that time purely subjective in character. The remedy influences the pulse probably as much as anything that we employ in the treatment of tachycardic in exophthalmic goiter. It has, he believes, a better influence on the patients' weight. He does not consider that the results from the serum can be permanent; the patient will probably have to continue taking the serum, or will have to repeat the treatment from time to time for permanent results.

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**Uric Acid:**

In *American Medicine*, for August 26, Byron Robinson states the rational treatment of excessive uric acid in the system consists in administering food that contains elements to produce basic combinations with uric acid forming urates (usually sodium) which are freely soluble. This will diminish the free uric acid in the urine. Excessive uric acid in the urine is an error in metabolism. The meat-eater is the individual with the maximum quantity of free uric acid in the urine. Flesh is rich in uric acid, and hence in excess of uric acid in the urine, flesh should be practically excluded, because it increases free uric acid in the urine. Generally, the subject who suffers from uric acid is a generous liver, liberally consuming meats and highly seasoned foods, indolent and sedentary persons, and alcoholic indulgers. The food in these cases should contain matters rich in sodium, potassium and ammonium which will combine as bases with uric acid, producing alkaline urates, which are freely soluble in the urine. The patient should consume large, ample quantities of cabbage, cauliflower, beans, peas, turnips, radishes and spinach, in order that the alkalies existing in the vegetables may combine as bases with the free uric acid in the urine. Again

the administration of eggs and milk limits the production of uric acid. The most rational advice is to order the subject to live on a mixed diet, consuming the most of that kind of food which lessens the uric acid in the urine—vegetables. For many years he has treated subjects with excess of uric acid in the urine, by administering an alkaline laxative tablet in fluid. The tablet is composed of cascara sagrada 1/40 grain, aloes 1/3 grain, bicarbonate of sodium 1 grain, bicarbonate of potassium 1/3 grain, sulphate of magnesium 2 grains, of these one-sixth to one tablet (or more as required to move the bowels once daily) is placed on the tongue before meals, and followed by 236 cubic centimeters (8 ounces) of water (better hot). At 10 a. m., 3 p. m. and at bed-time, one-sixth to one tablet is placed on the tongue and followed by a glassful of fluid. In the combined treatment a sodium chlorid tablet and alkaline tablet are given together.

**Creosote:**

J. M. French, in *Merck's Archives* for July, concludes that (1) an idea of the importance of creosote therapy may be gained by remembering that its most common and successful use is found in the treatment of the two most fatal diseases, pneumonia and consumption. (2) Nearly all the important uses of creosote depend upon its properties as an antiseptic and germicide—pulmonary, intestinal and local. (3) The general subject of creosote therapy has been somewhat obscured by the number of derivatives and preparations, each claiming superiorities of its own. The truth is their effects are largely similar and the choice in any individual case will depend upon the ease with which it may be administered, and its freedom from unpleasant local effects, rather than upon any essential difference in the general effects of the various preparations. (4) None of the derivatives possess any important properties which are not found in the two bases, creosote and guaiacol; and for convenience and freedom from unpleasant after effects, none are superior for internal use to thiocol.

**Hypnotics:**

Cushing, in *Merck's Archives* for September, believes that hypnotics in large doses lower the bodily resistance to disease, but so does sleeplessness itself. The ideal hypnotic is yet to be found. The depressing action of chloral on the heart and tissues has been over-rated in its degree and importance; a similar influence belongs to all the chlorin hypnotics, but chloral still remains the best of them. Of the sulphur hypnotics, sulphonal is uncertain in its action, and causes tissue changes as evidenced by hemato-porphyrinuria; sulphonal and trional, he believes, are the most dangerous of all now in use. Veronal acts with comparative certainty in small doses, and without deleterious effects. It seems to him the best of the non-chlorin hypnotics, and to rank with chloral before all others. Hyoscin and hyoscyamin should be used with caution. When acute pain is present, opium is usually required, but when it arises from the nervous system itself, and not from acute inflammation, the antipyrin group might serve instead.

**Mercuric Chlorid:** Richard Hogner, in *American Medicine* for August 12, reports gratifying results in two apparently hopeless cases of cerebrospinal meningitis from the use of mercuric chlorid used by intramuscular injection. The injections were made in the gluteal region, but hard and very annoying infiltrations, swelling and stiffness may follow, so in his opinion the intravenous route is the best for the injections. For intravenous injections he uses the finest and shortest needles, and for intramuscular very coarse needles, one and a half inches in length. The dose used was three milligrammes at each injection and in one case only two injections were made, and recovery followed. He advises using for injection:

Mercuric chlorid .....	1 to 2 p
Sodium chlorid .....	1 to 9 p
Distilled water .....	1000 p

One can safely inject one cubic centimeter to four cubic centimeters of this solution, that is two milligrammes to eight milligrammes of the mercuric chlorid. Intravenously eight milligrammes is the maximum dose. He has used this injection in specific cases also largely and has never seen any bad results from it even though air was injected into the vein.

## Correspondence

*To the Editor of THE CLEVELAND MEDICAL JOURNAL:*

Sir—Recognizing the great importance of the Office of the Judge of the Probate Court, especially in its relations to the interests of the widows, orphans, and the insane; and appreciating the pronounced fitness of the present incumbent, Judge Alexander Hadden; we the undersigned physicians consider it our duty, both as members of that profession, which is so frequently in touch with Probate matters, and as citizens, to earnestly recommend him to the people at large, irrespective of political or other affiliations, and to appeal to our fellow physicians to exert their influence for his election.

Respectfully,

CHARLES J. ALDRICH,  
J. F. HOBSON,  
DUDLEY P. ALLEN,  
B. L. MILLIKIN,  
WM. THOS. CORLETT,  
MARCUS ROSENWASSER,  
G. W. MOOREHOUSE,  
M. J. LICHTY,  
H. J. SHERMAN.  
W. B. LAFFER,  
J. V. GALLAGHER,  
A. PESKIND,  
F. A. STOVERING,  
F. C. TAYLOR,  
G. N. KINSEY,

N. C. YARIAN,  
W. H. LUCAS,  
A. S. STOREY,  
A. P. SCULLY,  
G. C. ASHMUN,  
A. J. COOK,  
W. J. MANNING,  
A. R. BAKER,  
WM. H. HUMISTON,  
H. H. BAXTER,  
J. G. SPENZER,  
S. W. KELLEY,  
J. E. TUCKERMAN,  
J. B. McGEE.

## Academy of Medicine of Cleveland

At the thirty-first regular meeting of the Academy held at 8:00 p. m., Friday, October 20th, 1905, in the Assembly Room, at the Hollenden Hotel, Dr Roswell Park, of Buffalo, N. Y., read a paper entitled "What do Recent Studies Regarding the Thyroid and Parathyroids Teach Concerning the Treatment of Exophthalmic Goitre?" Dr Park's scholarly address was listened to by a large audience.

### CLINICAL AND PATHOLOGICAL SECTION

The twenty-seventh regular meeting of this Section was held at 8 p. m., Friday, October 6, 1905, at the Cleveland Medical Library. Program: Report and Presentation of a Case, Dr Henry S. Upson; Raynaud's Disease—Clinical Report, Dr F. E. Bunts, Pathological Report, Dr I. M. Belkowsky; Vincent's Angina—with Report of Cases, Dr L. W. Ladd; Cases of Retardation in the Growth of Limbs—due to Trophic Disturbances, Dr W. G. Stern.

WILLIAM E. LOWER, M. D.,  
Chairman.

JUNIUS H. McHENRY, M. D.,  
Secretary Pro Tem.

### EXPERIMENTAL MEDICINE SECTION

The twentieth regular meeting of the Section of Experimental Medicine was held at the Cleveland Medical Library at 8 p. m., Friday, October 13. Program: The Value of Alcohol in Carbolic Acid Poisoning—An Experimental and Clinical Study, Drs T. W. Clarke, E. D. Brown, and T. Sollmann.

WM. T. HOWARD, JR., M. D.,  
Chairman.

TORALD SOLLMANN, M. D.,  
Secretary.

## Alumni Association of St. Alexis Hospital

The regular monthly meeting of the Alumni Association of Resident Physicians of St. Alexis Hospital was held October 5, at 8 p. m., at the Hollenden Hotel. Program: "Whooping Cough," Dr Joseph V. Kofron; "A Dry Labor with Complication," Dr Jacob E. Tuckerman; "European Clinics," Dr Alfred P. Scully.

DR. JAMES E. COGAN,  
President.

DR. THOS. J. CALKINS,  
Secretary.

## Book Reviews

Treatise on Orthopedic Surgery, by Edward H. Bradford, M. D., Surgeon to the Boston Children's Hospital; Consulting Surgeon to the Boston City Hospital; Professor of Orthopedic Surgery, Harvard Medical School, and Robert W. Lovett, M. D., Surgeon to the Infant's Hospital and to the Peabody Home for Crippled Children; Assistant Surgeon to the Boston Children's Hospital; Assistant in Orthopedic Surgery, Harvard Medical School. Third Edition. Illustrated by 592 engravings. New York: William Wood and Company, 1905.

The third edition of this excellent text-book has been entirely rewritten in several portions and extensively altered and rearranged in others, bringing it up to date with the present condition of orthopedic surgery. Since

the publication of the second edition in 1899, the most notable progress in orthopedic surgery has been made, particularly in the treatment of congenital dislocation of the hip, of scoliosis, of traumatic and non-traumatic coxa vara, and of non-tuberculous diseases of the joints, and these subjects are especially well treated in this volume. A chapter giving the details of orthopedic apparatus, with descriptions and drawings, has been added, which should be very useful to the general practitioner. The book abounds in excellent illustrations and is certainly one of the best on the subject that we have.

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The Era Key to the U. S. P.; A Complete List of the Drugs and Preparations of the United States Pharmacopœia. Eighth decennial revision (1905). Vest-pocket size; 83 pages; price 25 cents. The Pharmaceutical Era, Publishers, 90 William St., New York.

The publishers announce a new edition of the well-known "Era Key to the U. S. P.," whose object is to further the introduction and employment of the official drugs and preparations of our National standard, the United States Pharmacopœia, the eighth revision of which is now in force. The book comes in vest-pocket size and gives in a "nut-shell" all the essential information required by the physician who desires to prescribe pharmacopœia remedies—their official names, synonyms and constituent parts, with average doses in both metric and English systems. The idea of putting the essential information of the Pharmacopœia in so small a compass is claimed to be original with the publishers, under whose direction the little work was compiled. The busy physician will find it both helpful and suggestive in his effort to prescribe official pharmaceutical preparations.

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A Text-book on the Practice of Medicine, for Students and Practitioners, by James Magoffin French, A. M., M. D., formerly lecturer on the Theory and Practice of Medicine, Medical College of Ohio. Second, revised edition. Illustrated by eleven full-page plates and fifty wood engravings. New York: William Wood and Company, 1905.

In the preface of this, the second edition, the author states that in the revision of the text only such changes as were believed necessary to complete its accuracy have been made. Very few of the original statements, he tells us, have had to be modified or retracted, though a number of additions have been made in order to bring the subject matter up to date. There are so many text-books on the practice of medicine that it is difficult even to understand the *raison d'être* for many of them. Unless there is some real justification for the appearance of text-books devoted to this subject, it hardly seems to the reviewer right that the student or physician should be called upon to decide upon a single work among so very many making apparently equal claims. Unlike most text-books devoted to this subject, the author, in a brief introduction, considers the classification of and the causes of disease, the pathology and bacteriology of disease in their broadest sense, devoting short paragraphs to the subject of nutrition and metabolism, changes in the blood and circulation, fever, infection, immunity, etc. In the body of the work the usual classification of disease has been followed, section one being devoted to infectious diseases; section two, to those caused by animal parasites, etc.

Throughout the work there are a large number of illustrations, many of them excellent of their kind, such as that facing page 276, a chart showing the distribution of guinea worm and filaria sanguinis hominis. The plate illustrating parasites of malaria, facing page 236, might certainly have been improved upon. In many ways the text of this volume covers sufficiently, in its brief description, the subjects considered, though in our opinion it makes the work essentially a manual as distinct from practice of medicine. With the author's statement that the bacillus icteroides of Sanarelli is now generally accepted as the cause of yellow fever, we do not agree, nor do we believe that he is within the truth when he makes this dogmatic statement. In a work bearing the date of 1905, it must be considered an omission when no allusion is made under the heading of syphilis to the recently described spirochaeta pallida. Why at this late date should we have the bacillus of Lustgarten dragged on the stage? It is only of historical interest. In many ways this edition has been materially improved but there is still room for many changes which might be well inserted in the text. Part three devoted to clinical methods of examination does not in our opinion belong in a text-book of medicine, though by many it may be considered a desirable adjunct to the work. A satisfactory index concludes the volume.

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Lea's Series of Medical Epitomes. Edited by Victor C. Pedersen, M. D. Arneill's Epitome of Clinical Diagnosis and Urinalysis. A Manual for Students and Practitioners. By James R. Arneill, A. B., M. D., Professor of Medicine and Clinical Medicine in the University of Colorado, Physician to the County Hospital and to St. Joseph's Hospital, Denver. In one 12mo volume of 244 pages, with 79 engravings and a colored plate. Cloth, \$1.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York. 1905.

This little manual, belonging in the series of Lea's Medical Epitomes, contains in brief space an immense amount of practical and valuable information. As a brief work of reference it should prove decidedly valuable and be of great help to the student. It is no more than it attempts and is a most satisfactory work of this character.

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A Manual of Diseases of the Nose and Throat, by Cornelius Godfrey Coakley, A. M., M. D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York City; Laryngologist to Columbus Hospital; the University and Bellevue Hospital Medical College Clinic; Consulting Laryngologist to the New York Board of Health; Member of the New York Academy of Medicine; Society of the Alumni of Bellevue Hospital; Medical Society of the County of New York; Medical Society of the State of New York; American Laryngological, Rhinological and Otological Society, etc., etc. Third edition, revised and enlarged. Illustrated with 118 engravings and five colored plates. Lea Brothers & Co., New York and Philadelphia.

Among the many manuals devoted to this subject, this third edition of Dr Coakley's satisfactory work must be accorded a first place. A really satisfactory manual intended to supply the needs of the busy physician and to be of real value to the student has been apparently a very difficult task to accomplish. The volume under consideration is in every sense eminently practical and we are glad to endorse it as

a really satisfactory work for the student and physician. The illustrations are sufficiently numerous and clear, the methods of treatment are accurately detailed step by step. The author has also included a chapter devoted to the care of the upper respiratory tract in the infectious and contagious diseases, which should prove of great value. A very satisfactory index is included.

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Lea's Series of Medical Epitomes. Edited by Victor C. Pedersen, M. D. Dayton's Epitome of the Practice of Medicine. A Manual for Students and Practitioners. By Hughes Dayton, M. D., Principal to the Class in Medicine, New York Hospital, Out-Patient Department; Clinical Assistant in Medicine, Vanderbilt Clinic, College of Physicians and Surgeons, Columbia University. In one 12mo volume of 324 pages. Cloth, \$1.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York. 1905.

This little volume, edited by Dr Pedersen, aims to be no more than the work of hasty reference for the busy physician as well as a work of reference for the student. The classification of Osler has been followed throughout. A surprising amount of therapeutic information has been crowded into this small volume which is an excellent epitome of the subject.

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Practical Massage in Twenty Lessons. By Hartvig Nissen, Instructor and Lecturer in Massage and Gymnastics at Harvard University Summer School; Director of Physical Training, Brookline Public Schools; Former Acting Director of Physical Training, Boston Public Schools; Former Instructor of Physical Training at Johns Hopkins University and Wellesley College; Former Director of the Swedish Health Institute, Washington, D. C., etc., etc. Author of "Swedish Movement and Massage Treatment," "A, B, C of Swedish Educational Gymnastics," "Rational Home Gymnastics," etc. With 46 Original Illustrations. 168 pages. 12mo. Price, Extra Cloth, \$1.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

This little volume is based upon the earlier volume of the author, "Swedish Movement and Massage Treatment," published in May, 1899, and upon the author's wide experience along this line. Of the value of massage we should be more keenly alive than we have been in the past, and in this little volume of one hundred and seventy odd pages all the important points have been brought out and clearly described. It is unfortunate that there is no index to the work. In a subsequent edition we hope that this defect may be remedied.

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The Eye, Mind, Energy and Matter, by Chalmers Prentice, M. D., Chicago, Ill., U. S. A. Published by the Author, 1905.

In this volume the author has attempted to demonstrate the correlation of three fundamental points in any method of rational treatment and has in a measure succeeded in establishing his thesis, the true balance between physical power, and the action of mind over matter. That drunkenness is a nervous disorder it is difficult to persuade us, nor are we willing to assume that properly adjusted lenses can be a very important factor in its cure. With many points emphasized by the author we are forced to admit our assent, but with the many still open to discussion we cannot agree. It is, however, an interesting presentation of the subject.

Diseases of the Eye, by May. Manual of the Diseases of the Eye, for Students and General Practitioners, by Charles H. May, M. D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York—1890-1903; Ophthalmic Surgeon to the City Hospitals, Randall's Island, New York; Consulting Ophthalmologist to the French Hospital and to the Red Cross Hospital, New York; Adjunct Ophthalmic Surgeon to Mt. Sinai Hospital, New York, etc. Fourth Edition. Revised, with 360 original illustrations, including 21 plates, with 60 colored figures. New York: William Wood and Company.

The popularity of this little volume is well attested by the fact that it now appears in its fourth edition, although but five years have passed since the work first appeared, and further by the fact that it has also been published in Great Britain and translated into German and Italian.

The most conspicuous change in this edition is in the character of the illustrations, which have been greatly improved, and in the addition of eight colored plates, six of them presenting twenty-nine very good colored drawings of the external diseases of the eye. Some slight alterations have been made in the typography, and the size of the volume is unchanged.

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## Medical News

F. S. Franks has removed from Oceola to North Robinson.

F. E. Beed, of Spencerville, recently removed to Van Wert.

Wm. H. Weir, of Cleveland, is in northern Canada on a hunting trip.

R. B. Hubbard, of Sandusky, is at present up in Maine on a hunting trip.

Paul D. Hale, of Dayton, has returned from a six months' sojourn in the Rocky Mountains.

Dr and Mrs F. J. Brubaker, of Springfield, have returned after a two months' trip in the West.

Walter B. Laffer has opened an office in Room 1002 Rose Building. Office hours from 2 to 5 p. m.

T. H. Brannan, of Canal Dover, who recently suffered a stroke of apoplexy, is slowly improving.

W. A. Mansfield, of Barberton, who has been taking a post-graduate course in surgery at Chicago, is now at home.

Isabelle Catherine McKaskle and James Thomas Jelks, were married September 7 at Butte, Montana. Their future home is to be Hot Springs, Arkansas.

Jerome B. Thomas and wife arrived at Dayton a short time ago from the Philippines, where they have been the past five years. Dr Thomas is at the head of the great government sanitarium in that place.

The first meeting of the Huron County Medical Society since its organization a few weeks ago was held October 11, at the St. Charles Hotel, Norwalk. The meeting was addressed by Carlyle Pope, of Cleveland, on the subject of "Obesity." A general discussion followed the address. The organization of the society was completed at the meeting.

The monthly meeting of the Hancock County Medical Society was held in the council room of the city building, at Findlay, October 12. Four new members were taken into the society. They were: M. S. Williamson, of Findlay; W. J. Zophi, of Findlay; R. N. Lee, of Mt. Blanchard, and A. J. Roycroft, of Fostoria. The next meeting is to be held at McComb, November 2.

Elizabeth E. Heinemann, of Boston, graduate of Massachusetts General Hospital, also of the McLean Hospital, Waverly, Mass., head nurse for three years of the Government Hospital, at Washington, recent graduate from the Pennsylvania Orthopaedic Institute and School of Mechano-Therapy, has accepted a position at Case Avenue Hospital as Superintendent, taking charge of the massage and hydropathic department.

The semi-annual meeting of the Eastern Ohio Homeopathic Medical Society was held here today. About thirty members of the society were present. Papers were read by the President, C. J. Damon, of Medina; V. S. Goggin, of Pittsburg; F. D. Smith, of Cuyahoga Falls, and H. D. Champlin, G. J. Jones, J. R. Horner, J. C. Wood, G. H. Quay, H. F. Biggar, H. F. Staples and A. B. Schneider, all of Cleveland. T. T. Church entertained the body at dinner.

The Jefferson County Medical Society held their meeting October 10, at Steubenville. Four very interesting papers were read by prominent men. The first paper was read by Enoch Pearce, entitled "The Consultant, His Relation to the Physician in Charge." The second by J. W. Collins, "Dispensing versus Prescribing"; the third was by W. H. Wood, "The Doctor as a Business Man"; and the fourth paper by Dr J. C. M. Floyd, "The Advancement of a Uniform Fee Bill in Jefferson County."

The members of the Muskingum County Medical Society held an interesting meeting October 11, at the rooms of the Board of Education in the Market building. Dr Warburton presided at the session. A valuable paper on "Typhoid Fever" was read by Dr C. M. Lenhart who presented some excellent ideas along the line of successful treatment of this much dreaded disease. Dr C. H. Higgins reported a complicated case of typhoid fever and Dr O. M. Wiseman read an entertaining paper on "Doctors as Medical Experts." Those present at the meeting were Drs Warburton, Sutton, Baron, Hanna, Lyons, Lenhart, Higgins, Bainter, Sealover, Evans, Sykes, Wiseman and J. L. Geyer.

The meeting of assistant physicians at the Massillon State Hospital, when twenty-five were present from all the Ohio hospitals, was one of the best ever held by the association. The subjects treated of in papers and by discussions were timely and all present took deep interest in the new thoughts advanced. For many of the physicians this was their first visit to the Massillon Hospital, and a trip over the grounds and through the buildings was a treat in itself. Time was given during the convention for several social affairs and to inspect the apparatus for treatment at the hospital. The association meets twice a year. The next meeting will be held in Cleveland the first Wednesday and Thursday in April. No officers were elected at the meeting here, but officers will be elected for one year at the Cleveland meeting. Dr E. C. Brown, of the Massillon Hospital, is vicepresident of the association. Dr N. H. Young, of Toledo, is president.

## Deaths

Abisha S. Hudson, of Mt. Vernon, age 86, died recently.

# The Cleveland Medical Journal

VOL IV

DECEMBER, 1905

No 12

## Intestinal Obstruction

BY DR GEO. A. ARMSTRONG, of MONTREAL, CANADA

MR. PRESIDENT AND GENTLEMEN: I thank you for the honor of an invitation to read a paper before you this evening. I assure you that I consider it no small compliment to be permitted to appear before the Cleveland Academy of Medicine, and although, as is not unusual, I have had time to repent and regret my willingness to undertake so onerous a labor, yet I may assure you that I have done my best, however good that may prove to be, to bring before you a matter of interest and importance.

I have chosen the subject of "Intestinal Obstruction," because it is of interest to many of the members of the Academy, the family physician, the man devoted entirely to internal medicine, and the surgeon. Of the pathology, etiology, symptoms and treatment of intestinal obstruction we are not ignorant. It is a condition essentially remediable—so far as concerns the obstruction, and yet a condition in which the mortality is very considerable.

I do not propose inflicting you with a resume of the literature of ileus. The subject is well worked out and clearly described in many text-books. I take it that there are two chief reasons for the unsatisfactory results obtained in so many cases, and these are—the delay in its recognition and faulty judgment in its treatment.

One reason for a tardy diagnosis is the fact that in acute obstruction but few of the symptoms are the result of the obstruction. The collapse results from the injury to the bowel wall, and its degree corresponds to the nature and severity of the lesion, its situation and the amount of bowel involved. Similar symptoms

may be due to a perforation in the cecum, or a typhoid ulcer, the passage of a gall-stone or the twisting of the pedicle of an ovarian cyst, or, as in a case I recently saw in Murphy's clinic in Chicago, to the rupture of an artery. Later on it may be due to profound septic intoxication. The point I wish to make clear is that at the onset it is not due to obstruction *per se* but to the injury to the bowel wall.

The same may be said of "pain," which also is due to and in proportion to the lesion of the intestinal wall, its site or locus, and the number of coils involved.

The vomiting, which is an important symptom, is reflex in the early stage and not due to the fact that the lumen of the bowel is occluded.

Constipation is the one symptom which may be due to the obstruction. We all know however that constipation may in itself be reflex and due to other influences, and again may be incomplete.

Meteorism, scanty urine, and indicanuria, all occur at times independently of intestinal obstruction.

I think that it must be admitted that at the outset, at the first visit, the most expert hospital physician or surgeon is unable to make a definite diagnosis. If, however, these symptoms persist 12, 24 or 36 hours, unrelieved by appropriate treatment, the diagnosis of obstruction becomes highly probable and almost a certainty. The persistence of these symptoms for 24 hours, unrelieved by treatment, not only renders exploratory laparotomy justifiable but obligatory. My experience leads me to think that family physicians are frequently misled by the past history of the patient and by the injudicious use of drugs. As an example of the former I will recite one typical instance. I could give many equally striking examples:

On the 19th of June, 1902, I saw Mrs C., aged 72, with the family and the consulting physicians. The woman lay partly on her side and vomited every few minutes. The abdomen was enormously distended, tender, and the skin discolored from hot applications. As a result of enemata and purgatives several stools had been passed, none of them being considered satisfactory. It was the fifth day of her illness; pulse 140 and compressible; surface clammy; temperature 98  $\frac{4}{5}$ ths; Hippocratic facies well marked.

In this case the family physician was a particularly strong, accurate, capable man. He had attended this woman for over 40 years. During the past ten years he had attended her during six

or eight similar attacks. In each one of these attacks recovery had promptly followed a free movement of the bowels. They had never lasted more than 24 or 36 hours. The husband and friends objected strongly to operation, because she had had so many attacks just like this one and as soon as the bowels moved she had got better.

On opening the abdomen the peritoneal cavity was found to contain air, pus and feces. A very large gall-stone was found in the ileum about six feet above the ileo-cecal valve, and removed. About two feet above this was found a perforation situated close to the mesenteric attachment of the bowel and in size of sufficient diameter to admit a crow-quill. The edges were necrotic and the bowel and adjacent mesentery were covered with lymph.

At the autopsy the gall-bladder was found adherent to the liver and to the small intestine. Nature had performed cholecystenterostomy. The gall ducts were patent.

Here then was the explanation of the preceding clinical history. The family physician had been misled by the patient's previous history. If laparotomy had been undertaken on the second day, the result might have been more satisfactory. Time limit is useful in differentiating between malignant and benign conditions and should be a sign of importance in acute and chronic intestinal obstruction.

The injudicious and free administration of opium disguises the condition of the patient, deceives the attending physician, and leads to dangerous delay.

Only a few days ago a man was admitted to my ward with symptoms of intestinal obstruction. He had been discharged only ten days before, recovered from generalized peritonitis, secondary to perforative appendicitis. He complained loudly of intermittent abdominal pain of a gripping character. Vomiting was present and the vomitus was dark and odorless. Repeated enemata were given, each being returned well colored. No flatus passed. The pain and vomiting continued and the abdomen gradually assumed a rounded form. Eighteen hours after admission he refused operation. Six hours later he accepted gladly. I found a small horse-shoe shaped loop about the middle of the ileum, black, the mesenteric vessels leading to it thrombosed, the gut on the proximal side dilated and on the distal side collapsed. No band was observed. There was no volvulus. The

obstruction was apparently due to the thrombosis of the mesenteric vessels and paralysis of the loop deprived of its blood supply.

I mention this case to illustrate my point, that is, had I allowed morphine, the pain would have been relieved, the patient and attendant deceived as to the progress of events and surgical relief unduly postponed.

Relief from pain and distress is a natural and legitimate demand. How can it best be afforded? By washing out the stomach, withholding all food and drink by the mouth, and the liberal application of ice bags. If these measures are applied morphine will seldom be needed. If these measures are not effective and sufficient, operative measures should be seriously considered.

In another case the previous history of the patient led me to make a wrong diagnosis. Symptoms of acute intestinal obstruction developed twelve months after the supposed occurrence of a severe and prolonged attack of appendicitis, recovering without operation. I thought that the obstruction was probably due to strangulation by bands. Instead of bands I found a gall-stone about the middle of the ileum. The patient made an uninterrupted recovery.

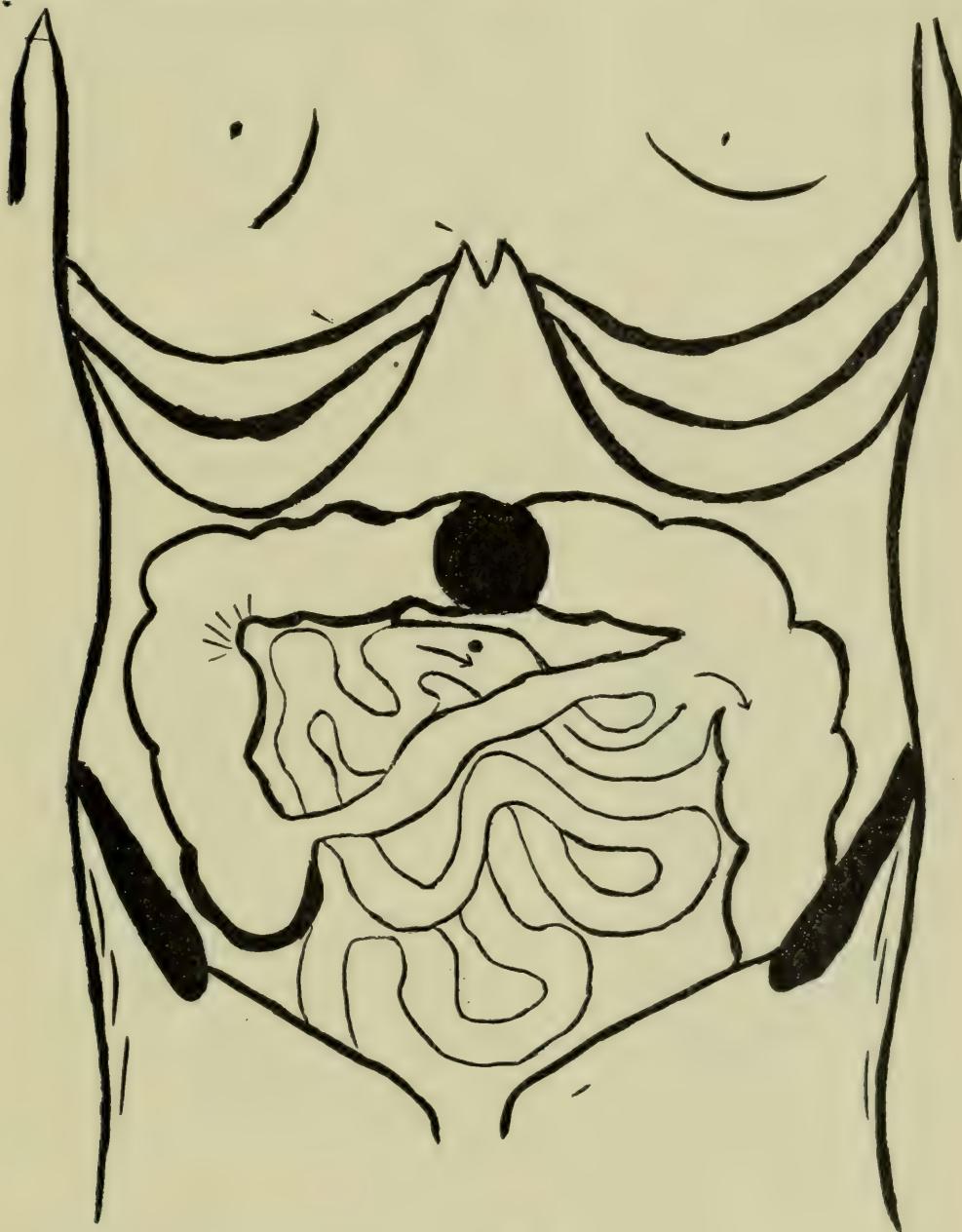
A history of chronic obstruction, preceding the symptoms of the acute form should aid in the diagnosis. Unfortunately it is not always duly appreciated. The spurious diarrhea as well as the acute symptoms are only too often attributed to errors in diet, or other indiscretions. Here again the continuance of the symptoms in spite of ordinary treatment is the sign of great diagnostic value.

The surgical methods to be adopted in acute obstructions are, as a rule, clearly indicated; not so, however, in acute obstruction following the chronic form. Here great judgment and resource are required to conduct the case to a successful issue. The most desirable alternative depends upon the cause and locus of the primary chronic obstruction, the constitution of the patient and the opportunities and surroundings of the operator.

I can best illustrate the procedures that may be adopted in varying conditions by a brief outline of illustrative cases:

Mrs L., aged 58, was brought to the Montreal General Hospital, December 2, 1902, with a diagnosis of appendicitis. She gave a history of having suffered for a period of seven months from recurring attacks of pain in the right side of the abdomen, radiating down to the groin, and accompanied by vomiting. She

had suffered greatly from constipation and on several occasions diarrhea had alternated with the constipation. During this period of seven months she had lost 44 pounds in weight. She was thin, poorly nourished and the subcutaneous fat absent. Skin dry and loose; mucous membranes pale.



CASE I.

On palpation a hard mass about the size of a small apple was felt just below the costal margin to the right of the median line. On opening the abdomen the appendix was found to be normal. The growth was situated in the transverse colon. It was hard. The lumen of the bowel was nearly occluded. A few mesenteric glands were enlarged and hard.

The condition of the patient was, I thought, sufficiently good to justify the immediate removal of the growth. I therefore made an anastomosis between the ileum and the transverse colon, making a suture line of four inches. This insured an opening large enough to avert danger of future contraction. The condition of the patient being still good I removed the growth and the enlarged glands and closed both ends of the divided bowel. The pathologist reported the growth to be an adeno-carcinoma.

An excellent recovery followed and the woman is today, nearly three years later, in apparently perfect health, without any sign of recurrence. After the operation she gained 25 or 30 pounds.

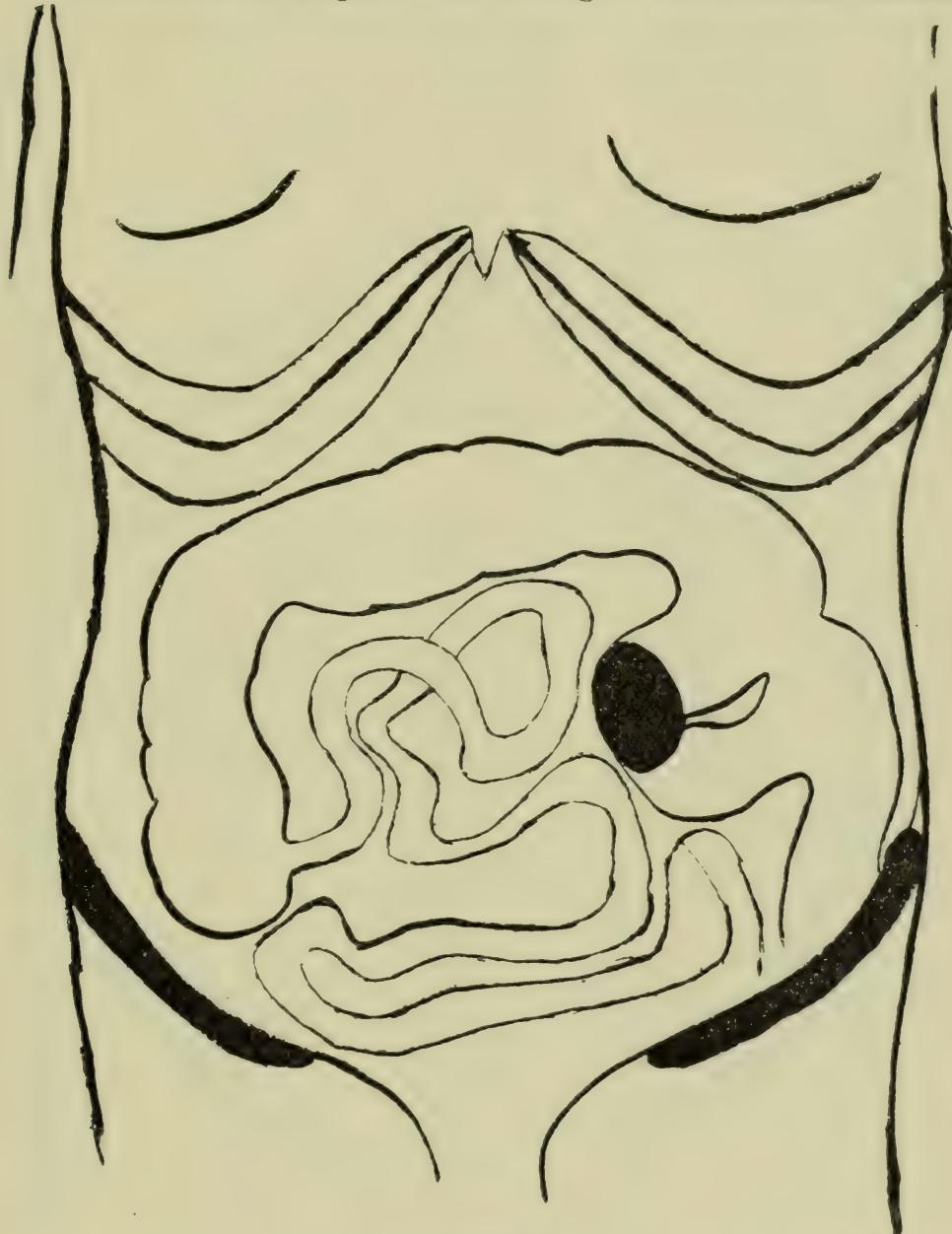
This plan is ideal, but can only be attempted when the case is seen early before there is very great distension, and before the intestinal wall has become sodden and the patient profoundly toxic. The case also is evidence of the immunity from recurrence, and of the comparative good health, for a number of years, that may be expected when a carcinoma of the large bowel is removed early.

Mrs W., aged 57, was admitted to the Montreal General Hospital on the 8th of August, 1903. The clinical history illustrates one or two of the difficulties of making an early diagnosis. Her complaints on admission were: Pain and swelling in the left side of the abdomen; vomiting, constipation and loss of appetite. About seven months before admission she fell down stairs and received a severe blow on the left lower quadrant of the abdomen. She continued at work during the day, but at night suffered from nausea and vomiting and abdominal pain. The pain in the left iliac region has bothered her ever since her accident, being often worse at night and aggravated by eating. She continued at work, however, until three days before coming into the hospital. Says she has lost weight. Has felt a constant desire to go to stool, but unable to pass anything without taking medicine. Her chief diet has been raw eggs and brandy. The swelling of the abdomen has been present about a week. She works as a charwoman. Her mother's father died of cancer of the lip.

She is a small woman, about 5 ft. 2 in. in height, and weighs 95 lbs. The abdomen is considerably distended and somewhat tender. Enemata bring away flatus and liquid feces in considerable quantity. No vomiting. She was carefully fed and received enemata for 13 days. The enemata were nearly always effective, but the distension did not diminish appreciably and it was quite evident that she was losing ground. No tumor could be felt. Fluid was present in the abdomen. There visible peris-

taltic waves. She never passed blood or mucus in the stools. From the foregoing it became pretty clear that she was suffering from incomplete chronic obstruction, probably due to a malignant growth.

On the 21st of August, 1903, through a lower median incision,

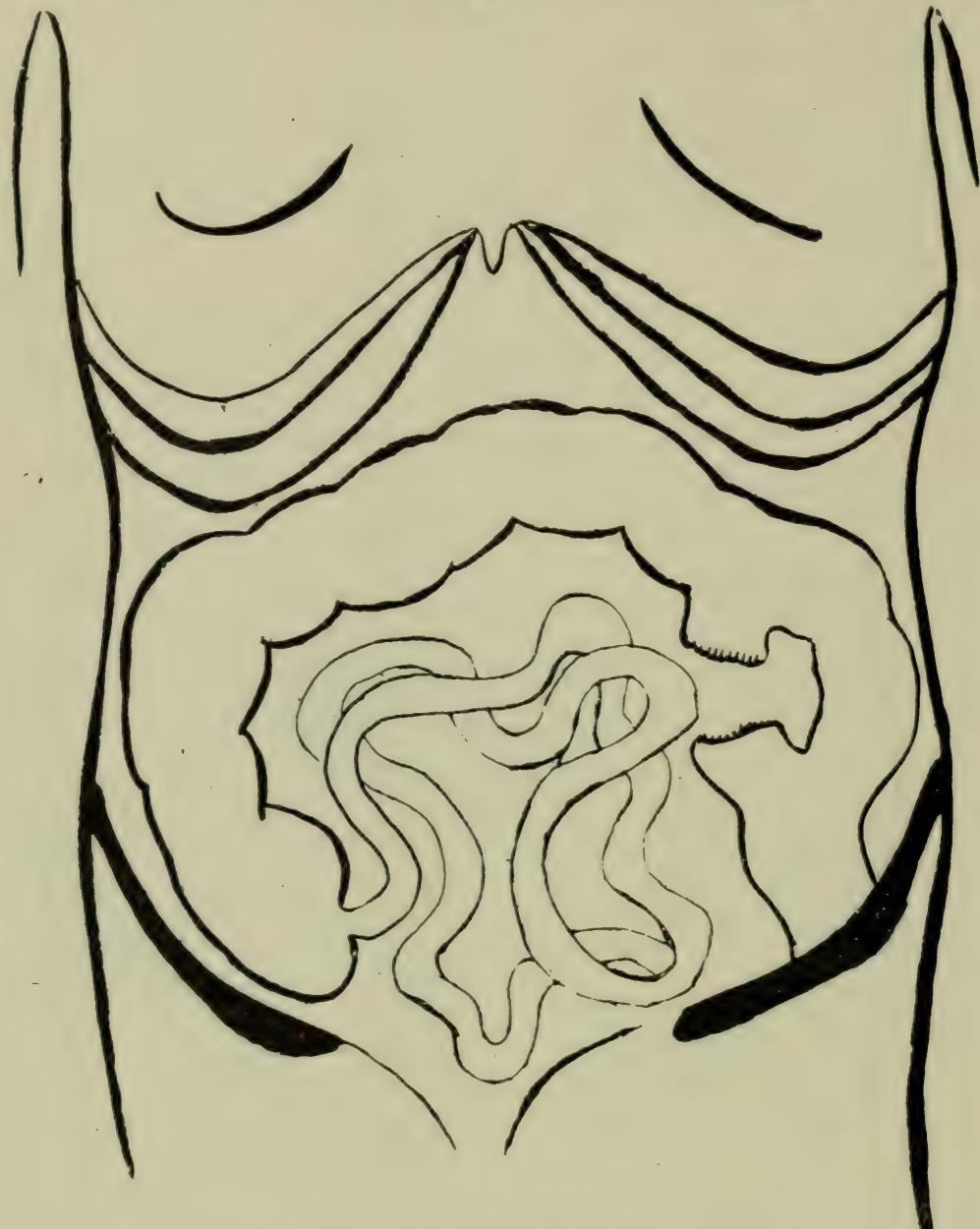


CASE II.

I discovered a hard growth in the upper part of the sigmoid flexure. So far as I could judge it would admit an ordinary lead pencil. The distended condition of the small intestines and the poor condition of the patient seemed to render radical procedure at the time inadvisable, so I made a large lateral anastomosis between the descending colon above the growth and the lower

part of the sigmoid and closed the abdomen without drainage.

Her general condition gradually improved and she gained strength. Three weeks later, through a criss-cross incision on the left side, I removed the growth, closing both ends of the gut. This time I used drainage. A sinus persisted for a fortnight. She is



CASE II—AFTER THE REMOVAL OF THE GROWTH.

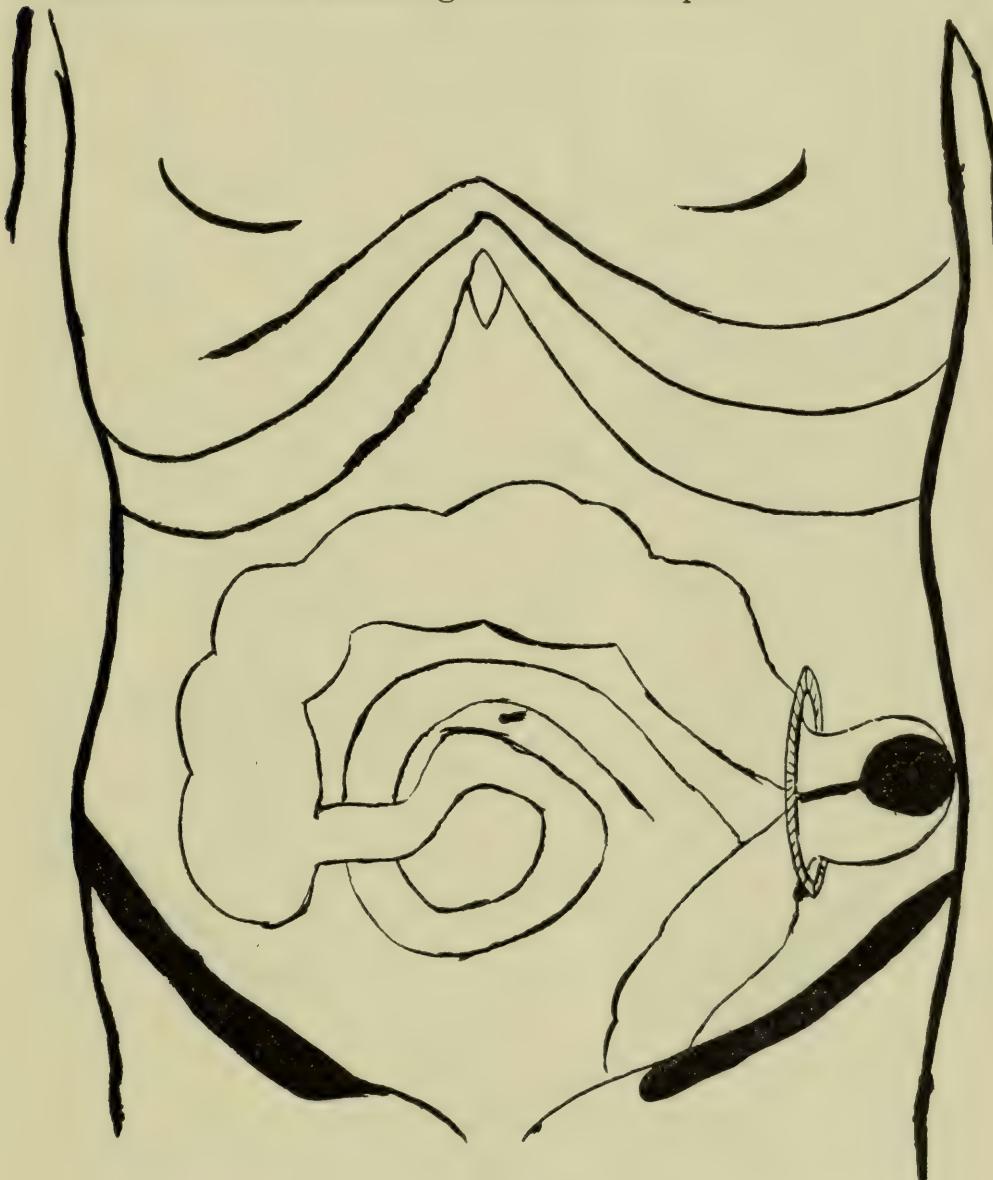
now, two years later, free from any evidence of recurrence, and earning her living as a charwoman.

The report of the pathologist was carcinoma of sigmoid.

I looking back on this case I think that in not attempting to remove the growth at the first operation there was greater safety. The operation would have been prolonged with added

danger of sepsis and a little more loss of blood. As it was, very careful after-treatment was required to get her through the first 48 hours. The lateral anastomosis accomplished all that a colotomy could have done and without the many obvious disadvantages of the latter.

The following case illustrates another method of dealing with chronic obstruction becoming acute and complete.

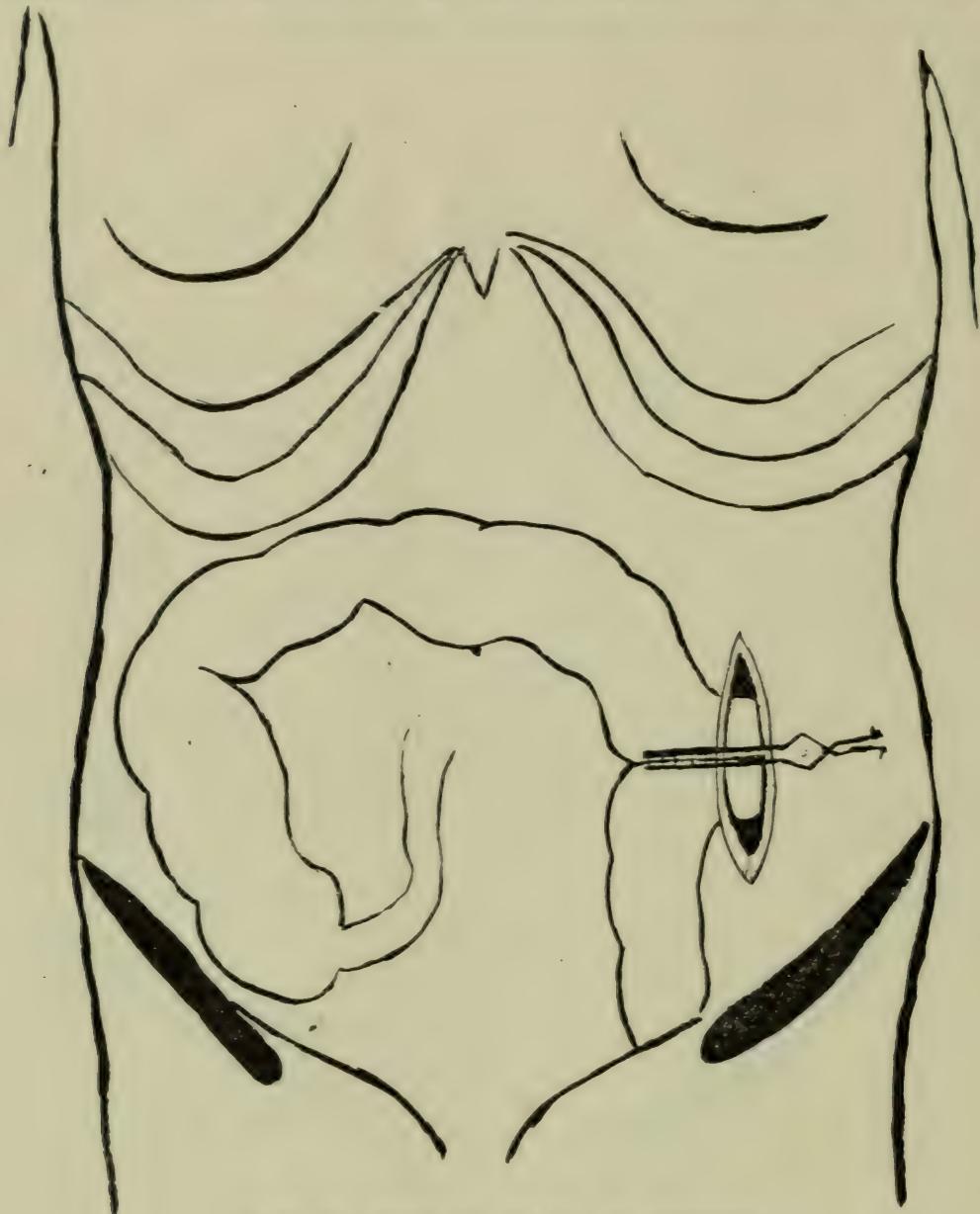


CASE III.

Mrs L., aged 65, was admitted to the hospital on the 24th of June, 1905, complaining of abdominal pain, vomiting and constipation. She told us that her illness began 24 days before with griping pain in the abdomen and a desire to go to stool, but when she went she could not pass anything. During the first week of her illness she obtained some relief from purgation. She vomited several times during this week. During the second week

occasional vomiting occurred; purgatives failed, but she got relief from enemata containing turpentine. During the week immediately preceding her admission to hospital neither purgatives nor enemata were effectual.

On admission her temperature was  $97.4^{\circ}$ , pulse 124, respirations 48. The abdomen was uniformly distended and on deep



CASE III—MIKULICZ CLAMP IN POSITION.

pressure was tender; tenderness in region of liver. No mass could be felt. She positively refused operation. During the following day the gravity of her condition was made plain to her, and her family and spiritual adviser urged her to submit to operation, but she still refused. On the third day she consented. At this time her general condition was very bad and the abdomen greatly distended.

Through a median incision I felt a hard mass fixed in the sigmoid. The intestines were greatly distended, but the walls appeared to be in a fairly good condition. The median incision was closed and an incision made over the tumor. After ligating some of the mesenteric vessels I was able to deliver that portion of the sigmoid involved in the growth. At this stage the anesthetist informed me that her condition was becoming desperate, I therefore anchored the growth well outside the abdomen, sutured the parietal peritoneum carefully around and inserted a small tube on the proximal side of the tumor and washed out the stomach. She slowly recovered. The evidences of toxemia disappeared, and she became able to retain food. The next step was to remove the growth. About two weeks later, the abdomen being then soft and flat and the adhesions around the gut firm, I placed a Mikulicz anastomosis clamp in position. It came away on the third day. I think that she pulled it out. She was of an exceedingly low order of intelligence and we had great difficulty all along in controlling her. About a month later I again placed the anastomosis clamp in position and succeeded this time in getting a very satisfactory anastomosis.

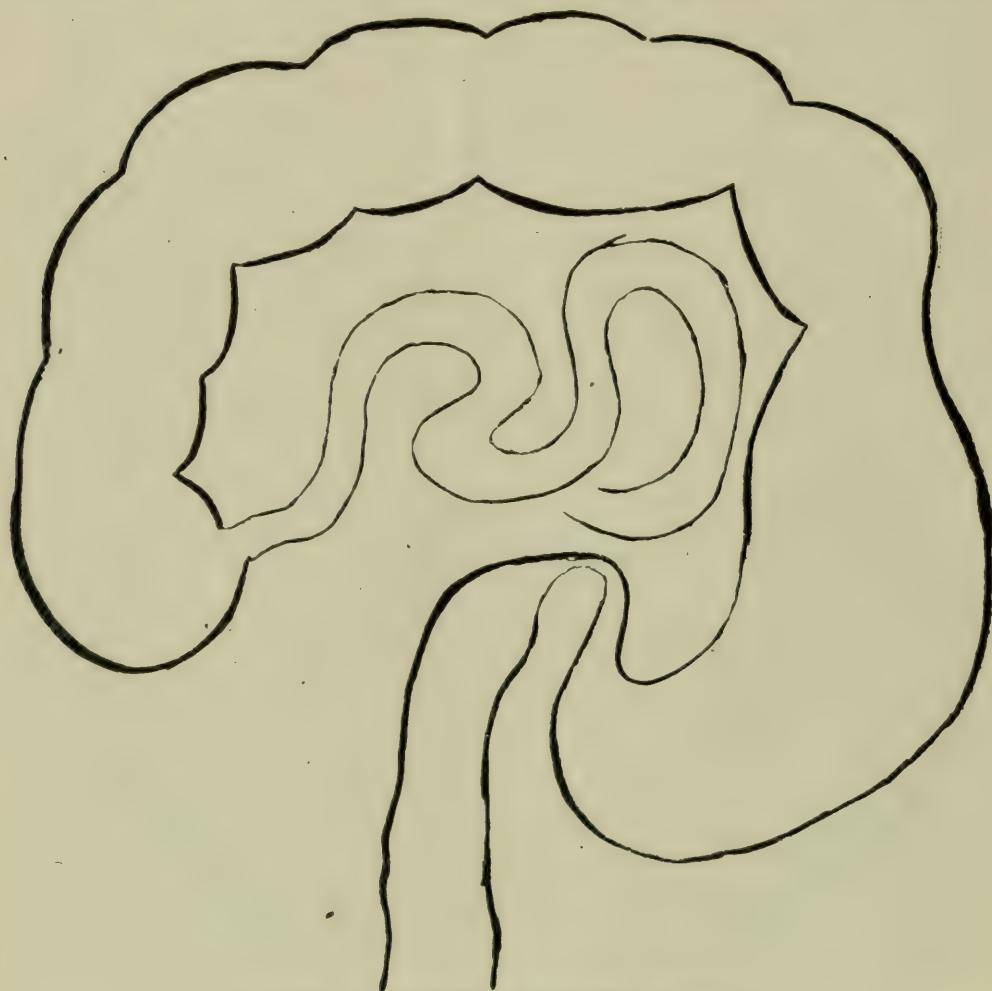
The growth proved to be an adeno-carcinoma.

On the third of August last I was asked to see M. S., aged 54; he was a patient in the Verdun Insane Asylum. A distinguished American surgeon was spending the day in Montreal, and I asked him to go with me. We found the man in the infirmary suffering from abdominal pain and distension, diarrhea and vomiting. He had been subject to so-called bilious attacks all his life, at intervals of about six months. These attacks have been accompanied by griping pain. Twenty years ago he says he had an attack similar to the present, but not nearly so severe, accompanied by pain and distension. Has been in the Asylum for about ten years, and during that time has frequently suffered from abdominal pain and distension, but until the present these attacks have yielded to enemata.

Seven days before admission to the hospital, while at work, he was suddenly seized with severe pain across the abdomen and extending into the back. During the past week he has vomited several times. Has passed a liquid stool every day but one, and sometimes two. Nevertheless the abdominal distension is increasing. On admission the whole abdomen was markedly distended. There was slight tenderness on pressure, but no resistance and no rigidity. No evidence of fluid. The superficial veins were prominent; heart displaced upward.

We differed in opinion as to the nature of the condition. My American friend was inclined to give a good deal of weight to the

previous history of recurring bilious attacks, and suggested the possibility of these having been connected with the veriform appendix. If so, the present might have started as an appendicitis and the distension be due to a general peritoneal infection with adynamic obstruction. In my opinion the gradual but continuous and increasing distension developing concurrently with the passage of small watery stools, and the absence of marked rigidity, pointed rather to a chronic obstruction from malignant

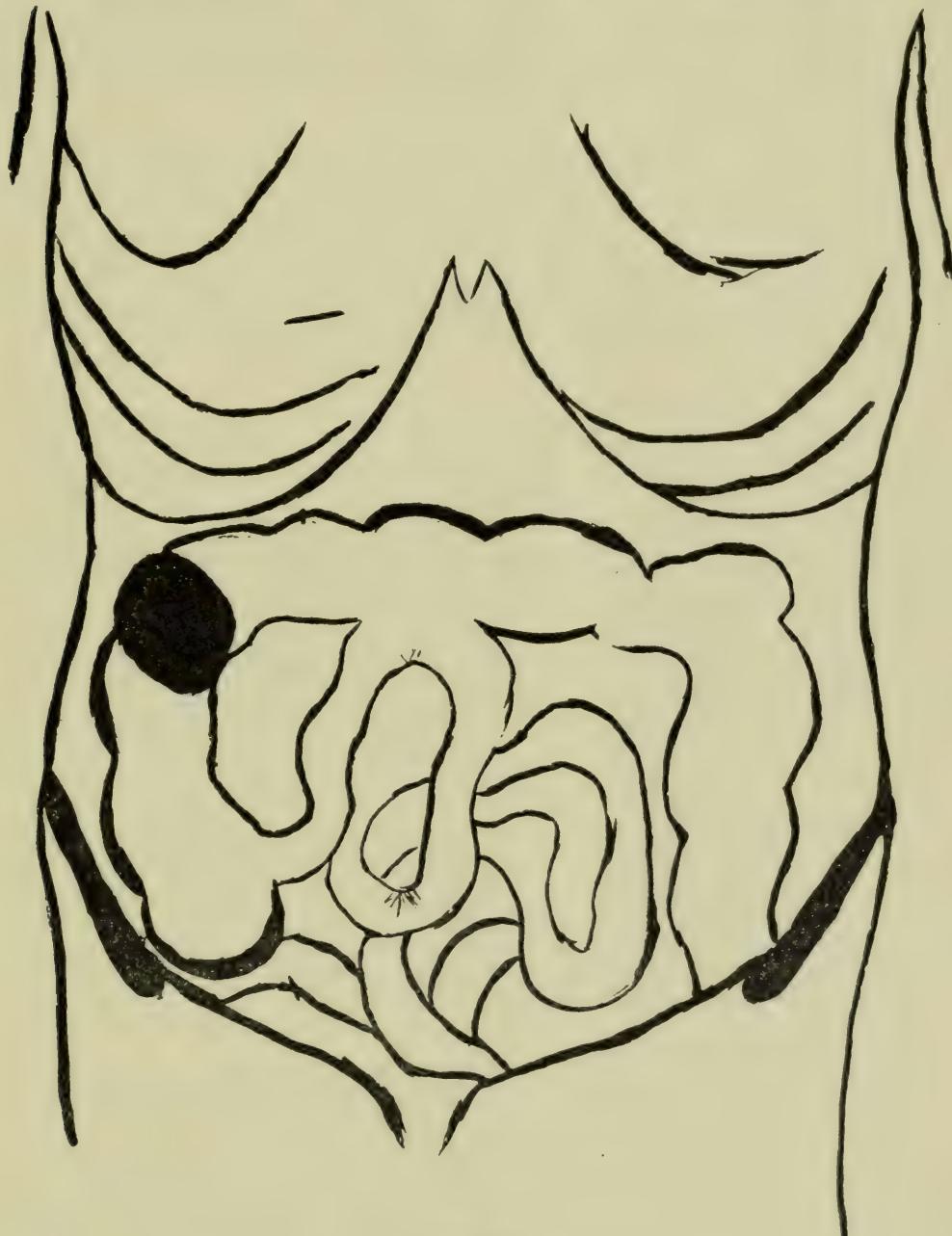


CASE IV—SHOWING DISTENDED SIGMOID.

disease suddenly become acute, but incomplete. I think that we each saw the force of the other's argument and we certainly were in perfect accord in advising an immediate exploratory incision.

As soon as he was removed to the General Hospital I opened the abdomen in the median line below the umbilicus, when there rolled out a distended sigmoid. The dilatation was very extreme, the walls of the gut being thin and transparent. The dilatation was apparently confined to a comparatively short bit of gut about 18 inches long and over 14 inches in circumference. The veins

were dilated; the lymphatic glands enlarged. The sigmoid was apparently bound down by an abnormal and apparently congenital fold of peritoneum. The obstruction was apparently due to the dilatation and folding downward of the sigmoid over the more fixed first portion of the rectum. An assistant passed a tube up



CASE V.

through the anus and rectum and then the distention of the intestines was easily made to disappear by gentle compression of the abdominal wall. The condition was interesting and quite unusual. Honors were easy in the matter of diagnosis.

I laid the two arms of the sigmoid side by side and made a

large lateral anastomosis, the sew-line measuring  $4\frac{1}{2}$  inches. The man is now in good health. My sutures failed at one point, and there remains a sinus through which some gas and fecal matter escape, but this is gradually lessening. Occasionally there is trouble in getting the bowels to move satisfactorily. On two occasions when this occurred I inserted my finger through the sinus and found the loop of sigmoid filled with hardened feces. It may be necessary to excise the loop, but of this I am not yet sure.

In another instance I was asked to operate on a man in Cornwall, Ontario, in whom symptoms of acute had developed upon those of chronic obstruction. The very great distension and persistent vomiting had been present for 90 hours. The feeble, rapid pulse, dry tongue, livid lips, and cold, clammy surface, were indications of the pronounced toxemia present. No tumor could be felt.

Through a median incision I felt a hard mass in the hepatic flexure of the colon. The enormously distended condition of the small intestines made it very difficult to work. I therefore selected a loop of small bowel about the center of the ileum, brought it outside the abdomen and through an opening succeeded in evacuating sufficient liquid fecal matter and gas to reduce the bulk of the intestine, and then joined the lower ileum to the transverse colon, leaving the removal of the neoplasm to the local surgeons, at a future date, when the bowels had emptied, recovered their tone and the patient recovered from his toxemia.

The recovery from this operation was uneventful so far as the abdomen was concerned. When preparing this paper I wrote to Cornwall for the future history of this case and was told in reply that he subsequently developed pneumonia and gangrene of the lung from which he died after a rather long illness. The neoplasm had not been removed.

The cases in practice, of which I have given the condensed clinical history, are types selected to illustrate the difficulties in diagnosis and the resources at our disposal. You may have noticed that two of these patients, in their own words, have stated that they suffered from griping pains and a desire to go to stool with ineffectual results. This is a symptom of great value and in my experience is generally present in a modified form when the obstruction is in the small as well as when in the large bowel. There is this difference that when the narrowing is in the small intestine there is more frequently a passage of a small amount of

feces, but the passage in not followed by a sense of relief, and even if these small stools are comparatively frequent the distension remains as before or gradually increases.

In my country, if I may repeat, the family physician is too ready to relieve distress by the use of his hypodermic syringe. It is a laudable desire on his part and a reasonable demand upon the part of the patient. But still higher ground is taken when time and opportunity are asked in which to come to an intelligent appreciation of the condition causing the pain. As a rule, to which there are very few exceptions, patients are generally reasonable and patient when the difficulties and dangers are clearly, frankly and kindly put before them. These are what may be called border-land cases, in which the truth is generally more quickly and correctly determined by a physician and surgeon acting together.

In the treatment of these cases I am satisfied that in the past, speaking at least for myself, I have often tried to do too much. Ideal surgery is very fine, but it is sometimes followed by a high death rate. If the patient is in good condition and the walls of the intestines normal, or nearly so, then remove the growth. If the patient's condition is worse, but the intestinal walls still fairly good, one may without, or after emptying some of the distended coils, do a short circuiting operation, and later on remove the growth, closing in the divided ends. This procedure is very much better than bringing out a loop as in colotomy. An ileo-colostomy or a sigmoidorectostomy is a clean operation; a colostomy is dirty, an annoyance to the patient and to the whole ward. If, however, the distension is great and the intestinal walls sodden, the mechanical difficulty in doing any anastomosis is great and the puncture of such a loop of bowel hazardous. A temporary anastomosis possesses another very great and obvious advantage. It leaves the abdominal wall clean, therefore the second operation to be undertaken for the removal of the growth, one of greater safety. The delivery of the growth and the opening of the proximal gut is very safe, but the illness is much prolonged. The Mikulicz anastomosis clamp is satisfactory; it gives a good and safe result, but the external opening is slow in closing. Paul's operation, I believe, has not received the attention it merits. It is safe, clean, and, in suitable cases, to be commended.

Another point is that malignant disease of the intestines is not such a hopeless one as may have appeared. It is a slow disease and once thoroughly removed, the results, I believe, will

compare favorably with those obtained in malignant disease in other situations where operative treatment is more readily resorted to.

Now, Gentlemen, while I am aware that I have not been able to bring before you any new methods, I hope that in drawing your attention to the important subject of intestinal obstruction I have suggested a line of thought and provoked a discussion that may clarify and classify our ideas, so that we may have a clearer understanding of this important group of cases.

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## The Right to Practice Medicine

BY ALFRED CLUM, OF THE CLEVELAND BAR.

The profession of medicine is essentially progressive. As the science is taught today it has many of the qualities of the newly discovered. It is an unfolding bud of promise, which the cultivation of the centuries has enlarged and beautified, and which yet germinates inquiry that only the future can answer. Its standard of skill has varied with the ages, and its goal has ever been lifted higher, so that today, to be entitled to practice medicine presupposes a higher grade of learning and ability than in any previous period.

Medicine has a history and its history is an evolution. It was known to the Romans, and the ancient Hebrew race show a familiarity with its practice. Jeremiah uses the phrase, "Is there no balm in Gilead, is there no physician there?" (Jer. 8:22); and again he says, "In vain shalt thou use many medicines, for thou shalt not be cured." (Jer. 46:11.) It is also evident that the charlatan and quack were famous centuries before Christ, for in the ancient book of Job, it is written. "Ye are forgers of lies, ye are all physicians of no value." (Job 13:4.)

In Greece there was the Temple of Aesculapius, whose devotees practiced medicine more as a religious rite than according to any philosophy. The sick were brought to the temple to be healed. At about the same time the school of Pythagoras undertook the teaching of medicine as a part of its philosophy, and some of his disciples carried their medical work to the extent of visiting the sick in their homes, quite similar to the practice of the doctor of today. Contemporaneous with these two schools, there was the ever present charlatan preying upon the public credulity.

The first medical writer of importance was Hippocrates, who lived in the fifth century, B. C. He is styled the "Father of rational medicine." His view of medicine may be characterized as a dogmatism founded on reason rather than experience. The great Aristotle was the son of a physician, probably belonging to this same school. When Alexandria in Egypt attained its literary greatness, there grew up a school having the high honor of being the first to teach that "close observation of diseases and experience of the effects of remedies in its treatment, were the only safe guides to medical practice."

As mankind became centralized, personal rights necessarily relaxed to the stronger rights of society. Man became a part of a greater organism made necessary by the multiplication of man. Acts now received attention, not merely in relation to the individual, but with reference to their effect on society. Thus law found itself inquiring as to the health and bodies of its law makers and its subjects. Crimes against the human body came to be considered as more heinous crimes against society. Then advocates of the law had to ask aid from the physician in determining many questions concerning homicide and mental capacity, concerning contagion and heredity, and an ever increasing number of other inquiries propounded by a complex civilization.

Although Rome for 600 years is not known to have had a physician, yet when Roman Law became codified it decided its medico-legal questions on "the authority of the learned Hippocrates." Not, however, until about 1552, in the time of the great Charles V of Spain, did Medical Jurisprudence take shape as a well defined subject of scholarly investigation. The Code of Charles V required magistrates, in cases of homicide, and in other cases of death by violence, to consult the opinion of medical men. A similar provision appears in the laws of France as early as 1609.

In the ages preceding the advent of Christianity as a world power, under the Roman emperors who adopted its faith, in other words, "in the pagan world, everyone practiced medicine at his will." But with this individual freedom, the injury to humanity perpetrated by ignorance and quackery and imposition led to the remedy, and that remedy was the restriction which the law placed as to the right to practice medicine. Under the christian emperors of Rome, almost every important town had its chief physician, and no one could practice medicine within his jurisdiction without first having undergone a satisfactory examination.

These chief physicians were paid by the state, and were required as a part of their official duties to furnish treatment to the poor without further compensation. The chief physician of the emperor had a title as a count or duke, and in those days medical schools became a necessity as a means of imparting such education as would enable those who desired to become physicians to pass the required examination. Thus Thomas Linacre, physician to Henry VIII, established a professorship at Oxford and Cambridge for illustrating the works of Hippocrates and Galen, and laid the foundation of what became the Royal College of Physicians in London. In the reign of Henry VIII a law was enacted prohibiting the practice of medicine or surgery in London, or within seven miles thereof, without the approval, upon examination, of the Bishop of London or Dean of Pauls, who should call to their aid four doctors. A similar approval from the bishop of a diocese was required beyond the seven mile radius.

Notwithstanding the right to restrict and regulate the practice of medicine, recognized for so many centuries, efforts to deny this right have been made even of recent years, and the Constitution of the United States, and the amendments thereto, have been appealed to as denying the state the right to impose any such regulations. The fourteenth amendment to the Constitution of the United States provides among other things: "No state shall make or enforce any law which shall abridge the privileges or immunitites of the citizens of the United States; nor shall any state deprive any person of life, liberty or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws." Perhaps the leading case on this question is that of Dent vs. West Virginia, which was fought all the way up to the Supreme Court of the United States (129 U. S. 118). The facts may be summarized as follows: Dr Dent received a diploma from the American Medical Eclectic College of Cincinnati, Ohio, and thereafter located in the Village of Newburg, West Virginia, in 1876, and began the practice of medicine. In 1882 the West Virginia Legislature enacted a law requiring every practitioner of medicine to obtain a certificate from the State Board of Health, showing one of the following three requirements:

1. That the applicant is a graduate of a reputable medical college, or
2. That the applicant has practiced medicine continuously ten years prior to March 8, 1881; or

3. Has been found upon examination to be qualified to practice medicine.

Dr Dent submitted his diploma from the American Medical Eclectic College of Cincinnati, Ohio, to the State Board of Health of West Virginia, which, after considering the same, returned it and rejected his application for a certificate, on the ground that the certificate was not issued by a reputable school, as defined by the State Board of Health. Dr Dent thereupon continued to practice medicine, and in June, 1882, was indicted for so doing contrary to the state law. He was tried and found guilty; and then prosecuted error proceedings to the Supreme Court of the United States on the ground that the act of the West Virginia Legislature was unconstitutional and void in so far as it interfered with the vested rights of Dr Dent. He contended that that state law:

1. Destroys his vested rights and deprives him of the estate he had acquired in his profession by years of study, practice, diligence and attention;

2. Deprives him of the benefit of an established reputation as a practitioner;

3. Depreciates, destroys, and hence deprives him of the value of his invested capital in books, medicine and instruments.

These three rights, it was charged, were violated, and that therefore the act itself was a violation of the provisions of Article 14, of the Amendments to the Constitution of the United States.

The opinion of the Supreme Court was delivered by Mr Justice Field, who said, among other things, in speaking of property rights of professional men in their professions: "The interest, or as it is sometimes termed, the estate acquired in them, that is the right to continue their prosecution, is often of great value to the possessors, and cannot arbitrarily be taken from them any more than their real or personal property can be thus taken. But there is no arbitrary deprivation of such rights when its exercise is not permitted because of a failure to comply with conditions imposed by the state for the protection of society. The power of the state to provide for the general welfare of its people, authorizes it to prescribe all such regulations as, in its judgment, will secure or tend to secure them against the consequences of ignorance and incapacity, as well as of deception and fraud. No one has the right to practice medicine without having the necessary qualifications of learning and skill, and the statute only requires that whoever assumes, by offering to the community his

services as a physician, that he possesses such learning and skill, shall present evidence of it by certificate or license from the body designated by the state as competent to judge his qualifications."

This regulation on the part of the state in regard to the right to practice either law or medicine may be classed among the police powers of the state, and concerning which the Supreme Court of the State of Illinois (*Lake View vs. Rose Hill Cemetery*, 70 Ill. 191) says: "It is the law of over-ruling necessity. It is that inherent and plenary power in the state which enables it to prohibit all things hurtful to the comfort, safety and welfare of society. It may be exercised to control the use of property of corporations as well as of private individuals." The constitutionality of the law in Ohio on the same subject was attacked in the case of *Edson France vs. The State*, 57 (O. S. 1), and the Supreme Court upheld its constitutionality, and the right "to make and enforce, for the protection of the people, all reasonable regulations and conditions calculated to insure the proper qualifications of those who would engage in the practice of medicine, or pursue other professional callings requiring learning and moral integrity for the proper discharge of their duties."

It may be of interest to notice briefly the history of state regulation of medical practice in Ohio.

The first statute was passed January 14, 1811, (2 Chase's Stat. 752) and required a person to have attended three full years to the theory and practice of medicine under the guidance of some able physician or surgeon, or to have a license from some medical society and to give satisfactory answers concerning anatomy, surgery, *materia medica*, chemistry, and the theory and practice of physic, the questions being propounded by a board of medical censors. The only penalty for violating provisions of the act was the denial of the right to collect fees for services by civil action. With the exception of a short period in 1812, this was the framework of the Ohio Statutes until 1818. The fines imposed for violations of this law ranged from \$5 to \$200.

In 1818 (2 Chase St. 1035) a new law gave a person holding the degree of doctor of medicine in any university or other medical institution within the United States, the right to a license to practice in Ohio without examination. In 1821, another law (2 Ch. St. 1173) provided for the incorporation of "The Medical Convention of Ohio," to which medical society was handed over the full power of determining who should practice medicine in Ohio, with the statutory limitation that the period of study

required should not be less than two nor more than four years. Three years later this law was wiped out, and the act of February 21, 1824, was passed dividing the state into 20 medical districts, and incorporating as many medical societies, one in each district. This law provided for an examination of would-be doctors in each district. Each applicant must have regularly studied with some reputable practitioner for three years, or two years only if the applicant had a college education. This act provided for the election of delegates from the local societies to a general convention or medical society at Columbus, which was incorporated with visitorial powers over the local societies.

This remained in force until 1833, when it was repealed, and from then until 1868 Ohio was free territory for all who wished to raise revenue by advising for a fee the sick, maimed and afflicted. The consequences "of the open door" are reflected in the act of October 1, 1868, which required a continuous practice of at least 10 years as the equivalent substitute for the requirements otherwise established by that act, *viz.*, that one should either (1) have attended two full courses of instruction and graduated at some school of medicine, either of the United States or some foreign country, or (2) produce a certificate of qualification from some state or county medical society. It was thought by many that the 10 years of practice might be had after the act of 1868 went into effect, but in the case of State vs. Ohio State Medical Board (60 O. S. 20) our Supreme Court held that the 10 years of continuous practice must have preceded the time when that act became effective, *viz.*, October 1, 1868, the court pointedly saying: "The proposition that one might enter upon the practice of medicine in 1877, in violation of the terms of a penal statute, and by persisting in such practice for ten years acquire the status of a legal practitioner, cannot be reconciled with the obvious purpose of the statute."

The next important modification of the laws regulating the practice of medicine in Ohio was the act of February 27, 1896, whereby the Governor, by and with the consent of the senate, was authorized to appoint a state board of registration and examination, consisting of seven physicians, one to be appointed each year for a term of seven years, representation to be given to schools of practice in the state as nearly as possible in proportion to their numerical strength in the state, but no one school to have a majority of the whole board. In order to practice under this act, one had to present to this board his medical diploma for

verification if a graduate; if not a graduate in medicine, he had to submit to an examination, as the board might require, unless he was a "legal practitioner" at the time of the passage of this act. To be such legal practitioner, one must have been in the practice of medicine 10 years before October 1, 1868, as was decided by our Supreme Court in the case last cited. When the board is satisfied that one comes within one of the classes above named, a certificate to practice will be issued, which certificate must be recorded in the office of the Probate Judge of the county in which the owner resides, and all this must be done before one can lawfully practice medicine.

I mention so many of the provisions of this law because it is the backbone of our present statutory regulations, and the special provisions which have been interpreted by our courts will be concisely referred to, together with a mention of the amendments which our legislature has enacted.

We will first notice the important change in the raising of the educational requirements of those who may practice medicine by reason of the act of April 14, 1900. The amendatory act which still remains in force makes an examination by the state board of medical registration and examination compulsory in all cases, except the following:

1. All persons who had complied with the provisions of the law of 1886, prior to July 1, 1900, and

2. All medical students who were on January 1, 1900, matriculated in any medical college in Ohio, and who subsequently graduated, and, prior to July 1, 1904, filed their diplomas for registration.

Of course these two exceptions have now expired by their own limitation, and the only exception from universal examination in order to obtain a state certificate, is the discretionary power of the board to dispense with such examination in case of a physician authorized to practice medicine in any other state or territory, who desires to change his residence to Ohio, and who pays a fee of fifty dollars (\$50) when he presents his license issued by the state or territory from which he comes. This discretionary power is further limited to physicians coming from such states and territories the statutory law of which grants equal rights to Ohio physicians who might desire to remove to such foreign state or territory.

The amendatory act of 1900 further required as a condition

for admission to such examination, one of the following credentials:

- (a) A diploma from a reputable college, granting the degree of A. B., B. S., or an equivalent.
- (b) A diploma from a normal school, high school, or seminary, issued after four years of study.
- (c) A teacher's permanent or life certificate;
- (d) A medical student's certificate issued upon examination by any state board;
- (e) A student's certificate of examination for admission to the freshman class of a reputable literary or scientific college; or
- (f) A certificate of his having passed an examination under the direction of the state board of medical registration.

In addition to being able to place himself or herself within one of the foregoing classes, the applicant must have either:

1. A diploma from some legally chartered medical institution in the United States, in good standing at the time of issuing such diploma, as defined by the board; or
2. A diploma or license which conferred the right to practice medicine in some foreign country, such license or diploma to be approved by the board.

The applicant shall be examined in the *materia medica* and therapeutics and the principle and practice of medicine of the school of medicine in which he desires to practice.

The act of 1896 undertook to define practicing medicine as one who shall "append the letters M. D. or M. B. to his name, or for a fee prescribe, direct or recommend for the use of any person, any drug or medicine or any other agency for the treatment, cure or relief of any wound, fracture, or bodily injury, infirmity or disease." William J. Liffing was an osteopath, and was treating C. B. McClelland for some ailment, without having complied with the provisions of the act of 1896. Mr Liffing was indicted, a demurrer to the indictment sustained, and the case went to our Supreme Court (61 O. S. 39). The question was as to whether Mr Liffing was "practicing medicine" within the meaning of said act. The state contended that the "system of rubbing and kneading the body, known as osteopathy" was an "agency" within the meaning of the clause defining the practice of medicine above quoted. The court held that the word "agency" in the statute was limited in meaning "by that of the associated words 'drug' and 'medicine'; that the purpose of the act was to protect society from the evils which might result from the

administration of drugs by the ignorant and unskillful; and that osteopathy was not an 'agency' within the meaning of said act." Mr Liffring was free.

This decision led to an amendment of April 14, 1900, which defines practicing medicine as anyone "who shall use the words or letters 'Dr.' 'Doctor,' 'Professor,' 'M. D.,' 'M. B.,' or any other title in connection with his name, which in any way represents him as engaged in the practice of medicine or surgery or midwifery, in any of its branches, or who shall prescribe, or who shall recommend for a fee for like use any drug or medicine, appliance, application, operation or treatment, of whatever nature, for the cure or relief of any wound, fracture, or bodily injury, infirmity or disease." A rider was tacked on to this amendment exempting from the operation of this act "any osteopath who holds a diploma from a legally chartered and regularly conducted school of osteopathy in good standing, as such, wherein the course of instruction requires at least four terms of five months each in four separate years, and provided further that the said osteopath shall pass an examination satisfactory to the state board of medical registration and examination in the following subjects: Anatomy, physiology, chemistry, and physical diagnosis; providing that said osteopath shall not be granted the privilege of administering drugs nor of performing major or operative surgery."

This section immediately found its way to the Supreme Court for construction in the case of State vs. Gravett (65 O. S. 289). The court held that osteopathy is within the meaning of practicing medicine as defined in said act of April 14, 1900. The clause of that act requiring as a prerequisite for examination a diploma from a college which required four terms of five months each in four separate years, was declared void as an unconstitutional discrimination against osteopaths and in favor of applicants from the regular schools, which need furnish only a diploma from a legally chartered medical institution in the United States, in good standing, as defined by the board, without a statutory requirement as to the length of terms or number of years.

Naturally the law makers were again applied to and the act of April 21, 1902, came into existence, amending the act of April 14, 1900. The amendments relate principally to osteopathy. The new law substitutes "obstetrics" for "chemistry," as a subject on which to be examined by the state board; requires the same evidence of preliminary education as is required of other applicants;

the presentation of a diploma or osteopathic certificate from a reputable college of osteopathy, as determined by an osteopathic examining committee provided for by said act, and before which committee the osteopath must pass a satisfactory examination in pathology, physiological chemistry, gynecology, minor surgery, osteopathic diagnosis and principles and practice of osteopathy.

The prohibition of the medical registration act does not apply to any commissioned medical officer of the United States Army or Navy in the discharge of his duties, nor to any legally qualified dentist, when engaged exclusively in the practice of dentistry, nor to a legal practitioner from another state, when in actual consultation with another legal practitioner in this state, nor to a legal practitioner of another state, residing on the border line, whose practice extends to the limits of this state, provided that the latter shall not open an office or place for meeting patients in this state.

It was not long after the enactment of the amendment last mentioned that the legal scope of its definition as to who is practicing medicine found its way to the Supreme Court (*State vs. Marble*, 72 O. S. 1). Oliver W. Marble resided in Erie County, Ohio, and on or about the first day of October, 1902, for a fee prescribed and recommended Christian Science treatment for the use of one Christ Hehl for the cure and relief of rheumatism, said Marble at that time not having obtained a certificate from the state board of medical registration. Marble was indicted, tried, found guilty, and sentenced to pay a fine of \$20 and costs. Marble prosecuted error to the Supreme Court, and there contended:

1. That prescribing for a fee Christian Science treatment is not practicing medicine within the meaning of the statute.
2. That Christian Science is a religious belief and in giving treatment as a religious and conscientious duty, he claimed the protection of the Constitution in securing to him the freedom to worship God according to the dictates of his own conscience; and
3. He contended that if Christian Science is a school of medicine, the act discriminates against such school, in that no special provision is made for granting certificates to graduates of that school.

In a lengthy opinion, the Supreme Court quotes from Mrs Eddy's *Science and Health*, page 410, where she says: "Always begin your *treatment* by allaying the fear of patients," and then she proceeds to suggest how this may be done. The Supreme

Court then adds: "If its followers call it 'treatment,' they ought not to be heard to say it is not. Dr O. W. Holmes' Medical Essays says: 'Disease is to be treated by anything that is proved to cure it.'" The court also says that the addition of the words, "of whatever nature," after the word "treatment," in the statute, is quite significant, and held that the "legislative intent was to bring within the definition every person who for a fee prescribes or recommends a cure for disease, even though the cure is to come not from himself, but, through his intercession, from God."

As to the second objection, the exercise of the religious belief, the court said: "We are not advised that it is part of the defendant's religion to exact a fee as well as to pray." And further that if the inhibition of the statute tends to the public welfare and is not obnoxious on other grounds, it does not come within the section of the Constitution and Bill of Rights relied upon. In other words, if a certain act or series of acts are against the public welfare, the perpetrators of such act or acts cannot justify themselves nor the continuance of such acts by claiming that they are acting in obedience to their conscience or religious belief. The court further reiterates the principle that the regulation of the practice of medicine is a constitutional exercise of the police power belonging to the legislative body, and that it would be too narrow a view of the language of the statute to limit it to the administering of drugs or the use of the knife; as the real subject which calls for legislative action is not so much medicine and surgery as it is "the public health and the practice of healing."

In answer to the third objection, that of alleged discrimination, the court holds that the legislature may prescribe a uniform examination and "it may recognize one school without recognizing all, if the recognition be in the exercise of proper classification and for the public welfare. . . . We fail to find anything in the act that discriminates against Christian Science. It does not provide for a special examination and limited certificate for the Christian Science practitioner, but he may obtain a certificate to practice medicine under the same conditions as any other person."

In giving you the foregoing review of the decision of our Supreme Court in the Marble case, and with all due deference to the learned judges who concurred in the decision, I cannot assent to the conclusions which they have reached as being altogether sound and logical, but this fault may be mine and not

theirs, and in any event, we must accept as the law of the state the interpretation which this honorable body has placed upon the statutes.

The law gives to the State Board of Medical Registration and Examination the right to determine what is a legally chartered medical institution in the United States in good standing, and also requires that the examination passed by the applicant shall be satisfactory to the board. In the exercise of this discretion imposed in the board by the statute, the board is supreme, and its decision is final and unimpeachable except for fraud or for such a gross abuse of its discretion and power as would amount to fraud. Thus, in *State vs. Coleman* (64 O. S. 377) where an action was brought to compel the state board to recognize the Hygea Medical College as a medical institution in good standing, which the board refused to do, the court held that the writ of mandamus will not issue either to compel such recognition nor to compel the state board to issue certificates to the graduates or holders of diplomas from such college.

In another case (*Krownestrot vs. State*, 15 C. C. 73) a physician had applied to the state board for a certificate and paid his fee, but who alleged that for some reason unknown to him, and which reason he alleges to be something other than the statutory reasons, the board had refused him the desired certificate. A criminal action was brought against Krownestrot for practicing without a certificate, and he attempted to interpose the defense above mentioned, but the court excluded all testimony of that nature and held that he could not, in defense to a criminal action, show why the state board refused him a certificate. Of course this is not holding that if a certificate had been withheld from him fraudulently that he would have been without redress, for by a proper proceeding, if he could establish the fraud, I believe he could obtain his certificate, but it was quite another matter to admit such evidence in a criminal case, and the action of the court was undoubtedly correct.

Doubtless the Statutes of Ohio will be yet further modified with the further development of the science of medicine, and for the purpose of setting forth somewhat concisely, but in a connected manner, the development of the law, this paper is respectfully submitted.

## The Sphere of Sanatoriums and Dispensaries in the Anti-Tuberculosis Struggle

Report presented to the Anti-Tuberculosis Congress at Paris,

By M. M. COURTOIS-SUFFIT and CH. LAUBRY, of Paris.

[Translated for this Journal by V. B.]

*Fake Dispensaries*—It is, moreover, seldom that these factors are found combined to create such a dispensary; § moreover establishments similar to that of Dr Calmette are rare. The preceding observations are addressed to them without withholding praise from every conscientious tentative effort. Unfortunately this reservation does not extend to other establishments which have not brought the same spirit into their organization, or in their methods, whether from necessity or from calculation.

*Consulting Dispensaries*—Where lack of means only is to blame one may criticize, but credit must be given to good intentions, and excuses are found in the loss in efficiency. Thus, the consulting dispensary, the result of insufficient pecuniary resources, which places at the disposal of the patient a waiting, or consulting room, together with a careful examination and hygienic advice given regularly and with a patience undismayed by the monotony of the formula, or the impossibility of material aid—such a dispensary is a work whose inefficiency cannot be decried without questioning honesty of purpose.

*Advertising Dispensaries*—But others, not satisfied with being useless, flourish by their side. Such as are not the exception pretend to philanthropic work, but are, in reality, nothing but centers of competition, or self-interest; we shall gladly designate them as Advertising Dispensaries, because every one is advertised. The presiding physician, who is made a specialist at his installation; the assistants, attracted by a new title and the prestige of a much coveted and easily granted decoration; even the political party predominant in the administration, and jealously watching the popular vote.

Such motives might provoke a smile, if they did not detract from the attention due to patients, and leave them at the mercy

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Rapports Présentés au Congrès.)

§ In the preceding chapters the authors mention the dispensary of Dr Calmette as a supplement to the sanatorium. Besides receiving medical and hygienic advice there workingmen suffering from tuberculosis and compelled to suspend work receive also assistance in clothing, food, books, beds, and money if necessary.

of dangerous errors and of regrettable methods. He runs to a dispensary made attractive by the subsidy of the municipality and the skill of an architect, and made comfortable because it is set aside for physicians. He finds there in attendance a medical man who does not always bring into service the regularity which may be expected from a regularly appointed physician, and which cannot be demanded from a practitioner absorbed in his professional duties. But he does not find—and this is essential—the uniformity in the method of treatment, either because the staff, generally too numerous, is beyond the influence of the chief physician, or because the uniformity in method is in contravention with the established therapeutics of tuberculosis. Consequently our patient, to whom the dispensary can furnish no food, is gratified by the application of electricity or ozone, of counter irritants, of various subcutaneous injections, while bottles of pharmaceutical nostrums displace hygienic prescriptions. It may be objected that these practices are rendered necessary to secure for the dispensary a patronage inaccessible to advice, if they do not fill a void in furnishing aid. But what shall we think of the educational or prophylactic scope of a work which evinces so much solicitude for the whims or habits of a patient whom it should instruct and discipline?

To sum up, it is not enough, as some imagine, to place the sign "Anti-Tuberculosis Dispensary" over a modest or attractive drug store; to receive there, without distinction, the wretched from every city ward, to take a useful part in the struggle against tuberculosis. Either, indeed, the new establishment will be sufficiently provided for to ensure the distribution of charity tickets, or for material assistance, and will do the work of a charity office; or the resources will fail and, notwithstanding patient and honest effort, the patients will disappear to seek elsewhere the meager pittance that caused them to go there; or, finally, the dispensary, in its effort to exist at any price, and gauging its influence by the number of patients, is transformed into a polyclinic where, under the cloak of tuberculosis, self-constituted specialists, physicians, laryngologists, gynecologists, surgeons, etc., prescribe and practice.

*Rational Conception of the Dispensary*—It is by unveiling such a condition that one may form a logical and rational idea of the dispensary, its place in the anti-tuberculosis struggle, and its sphere of usefulness.

The necessity that the dispensary must be supplemented by a safer and more lasting institutional sanatorium or special hospital, causes us to neglect its purely prophylactic sphere, as being too confined; to look upon an establishment as useless, where the most recent words of art and science are discussed; and as illusory the expenses devoted to assistance in food and clothing, which is always short of the demand. In other words, these considerations cause us to deprecate even the dispensary of Dr Calmette.

We prefer the consulting dispensary, modified so that it shall not be driven to sterility or to inanition. Now this fate can only be avoided, on condition that it has a safe outlet, a curative institution or asylum, which will transform it into a bureau of information for the intelligent selection of patients. \* \* \* \*

Lastly, it is the physician's duty to assure to the dispensary its true meaning, to supplement and maintain its scope of usefulness. He should remember that it should be rather an institution of precaution, of rest, of regeneration, than an establishment to cure, and that so far as tuberculosis is concerned, it is better to prevent than to try to cure, and that in our opinion, as well as in that of many of our colleagues, it is the *dispensary of preservation* which is of real value. To safeguard the individual with tuberculosis tendencies; to stop the work of a man in whom it is developing; to diagnose in time the long incubation which precedes the definite and overpowering appearance of Koch's bacillus; to rescue the child of a tuberculous subject; to follow up vigorously and to note down the curable forms of the disease; to control this side of the scourge, and turn toward the open country, the sea, the sanatorium, those factors toward a certain cure, that is the true sphere of the dispensary.

While losing sight of some of these ambitions, this scope is none the less important, making a necessity of the work, not because it will operate on rational principles, but especially because it will cease being *autonomous* and therefore will not be isolated but will constitute the *central and essential link of a chain* connecting various associations with curative establishments, and thus *forming the only barrier* which seriously may be proposed toward assailing tuberculosis.

# The Cleveland Medical Journal

CONTINUING { THE CLEVELAND MEDICAL GAZETTE and  
THE CLEVELAND JOURNAL OF MEDICINE

MONTHLY

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## EDITORIAL

We beg leave to call the attention of our readers to an abstract—page 538 from the report on the Tuberculosis Dispensary, made to the recent Congress of Tuberculosis, in Paris, by recognized authorities. It is a timely subject and well deserves careful perusal.

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### Bedside versus Laboratory Diagnosis

On several occasions the writer has had occasion to inveigh against the present tendency to substitute the laboratory for the bedside, as the point from which to make a diagnosis. This tendency has led to the neglect of those means of diagnosis which gave to our medical forefathers a better knowledge of the real art of medical practice than is possessed by the majority of the better trained and more highly educated men of today. The improvement of laboratory technic and increased knowledge of the microscopy of the blood, tissues and various secretions of the body has caused some of the younger men to affect laboratory methods when they are neither necessary nor expedient.

The diagnosis of disease must ever remain bedside diagnosis. The refinements of the laboratory are not to be decried, for they afford invaluable aid and will ever serve as *one of the means*, but rarely *the means* of diagnosis. Indeed, the laboratory findings will, in time, be recognized as but one link in a chain, the integrity of each unit of which will establish a positive and complete diagnosis; and although at times the master link, it will be in the great majority of cases, the last one forged. Medical treatment, and especially surgical treatment often demands expedition; demands for the safety of the patient that not one hour should be lost. In these cases if the diagnostician depends too singly upon the laboratory method, which, to be of any value, requires much time and patient thoroughness, time may be wasted, which had it been utilized, might have averted a fatality.

Some one has sneeringly remarked that much of the blood pathology is manipulation, and the very best of observers confess so many opportunities for error in over-refined laboratory determinations that the hazard of any case should rarely rest upon any one of these hair-splitting tests. Not long since some eminent men were voicing strong statements in regard to the possibility of diagnostinating incipient perforation, or perforative inflammation, of the bowel in typhoid fever by examination of the blood. The ink was hardly dry on their paper before a number of capable observers brought forward the indubitable proof that in typhoid fever leukocytosis may exist without perforation, and without perforative inflammation, and perforation occur without increase of leukocytes. It should not be inferred from this that a blood count is valueless; on the contrary, it is very valuable—valuable as an element of diagnosis, but insufficient alone to decide the momentous question involved.

After the discovery of the agglutination test it was fondly hoped that we had a means of diagnosing typhoid fever which would not admit of doubt, but soon the clumping was observed in other diseases in persons who had never had typhoid fever; besides it does not appear early enough to be of signal service, except as a late corroborative sign. It is particularly frequent in acute miliary tuberculosis, one of the diseases which is most frequently taken for typhoid fever. Giving the agglutination test its full value, and which is not an inconsiderable one in certain doubtful cases, yet with the knowledge to be obtained by the history of the patient's illness, his previous health, to which is

added a thorough physical examination, and it is possible to make a differential diagnosis without regard to the agglutination test.

It has been insisted that a number of diseases can be predicted or denied on the strength of the leukocytic count. It has been shown that if a patient is either in an extremely weakened condition and the normal defenses of the organism reduced in power, or the infection particularly virulent, instead of a leukocytosis there may be an actual diminution of the number of leukocytes. It is also established that following the administration of certain remedies, particularly quinin and salicylate of sodium, after a full meal or a cold bath, an increase of leukocytes is quite certain to obtain.

The really thoughtful and careful surgeons of today have reached the conclusion that the aid afforded by a blood examination for the determination both as to the time and necessity of operation in appendicitis and other suppurative diseases, cannot be told with any certainty through the presence or absence of leukocytosis, but rather depend upon an experienced and educated observation. Coagulation tests to determine the possibility of safely operating in extreme jaundice is less reliable than presence of bleeding from the gums and the finding of blood in the various excretions of the body. Coagulation tubes will soon take their place among the splendid, but useless collection of laboratory curiosities.

None of us should forget that the microscopic differentiation of various neoplastic growths is not as certain as the pathologist teaches; in fact, the surgeon now looks upon the clinical appearances of the malignant growth which he removes, and its relation to the lymph bearing plains of the body as a better guide for determining the possibility of return than upon its exact histological structure.

The microscopic appearances of the fluids, secretions and excretions of the body to the practiced eye of a careful observer often carries a message of as much certainty and force as the microscopic picture, and enables him to treat the case with as much precision and certainty, and with more expedition than is possible under laboratory methods.

The writer would be very sorry to be understood as decrying laboratory methods; on the contrary, he is strongly in favor of them, but thinks that too much confidence is often placed on them, to the exclusion of the more practical and expeditious methods of bedside diagnosis. Indeed, the laboratory diagnostician is often

the most helpless of all medical men unless his training has been supplemented by the clinic. The medical student should be taught to make a diagnosis at the bedside, if such a diagnosis be possible. He should be taught the methods of correct observation, the proper and various methods of examining his patient, and, above all, he should be taught to think, taught to arrange the facts and manifestations of the disease in his mind in a systematic and logical manner, so as to enable him to group together the signs and symptoms which point to a correct diagnosis. The eye, ear and hand should be educated and the student taught to rely upon his five senses, which are always present at the bedside of the sick, unless he lulls those senses to sleep by the comforting thought that in the laboratory he can easily and certainly make his diagnosis.

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### A Modern Attitude Toward the Use of Drugs

We have often been surprised to hear medical men in high places give public utterance to a sweeping condemnation of the use of drugs in the treatment of disease, without specific mention of the drug or the circumstances which call for their condemnation. Unguarded expressions of this kind are misleading, dogmatic and unscientific. Such criticism of drugs is not justified unless both drug and disease are specified. The attitude of the physician in such attacks is usually one of silence. How different is that of the surgeon, is shown by his resentment of the slurs as to the use of the knife, whether coming from the press or from those quack advertisers who appeal to public prejudice through such ads as "A sure cure for cancer, etc., *without the knife*." The medical profession which aims to be guarded in all its public utterances should discourage the broadcast sowing of such seeds of prejudice. The prejudice of the laity against drugs is sufficiently pronounced without the assistance of the profession.

A not exaggerated sample of such criticism as is referred to in this editorial was given several years ago by a brilliant and talented speaker before a large medical audience. He offered a broad criticism upon the use of drugs in the various forms of indigestion. "By far greater good" would result, the speaker claimed, from "change of diet." In the next breath he advised, in certain cases, a cathartic, which, to be consistent, should not be a drug. Lavage of the stomach and colon were also recommended, methods far more impractical for the average dyspeptic than the

use of drugs. For anemia, in some cases, he advised Gudes Pepto-Mangan, and for others Wyeth's Hypophosphites. If these are fair samples of the advanced state of *materia medica* upon which his broad condemnation is based, we are at a loss to know whether he reached his conclusions by a trial of drugs or of nostrums! Yet this speaker's looseness in criticism of drugs stands in direct contrast to his well-earned and universal reputation as a critical exponent of physiological problems.

To teach that drugs are akin to foreign deleterious substances when introduced into the human body is to foster a deep-rooted superstition. In the same false sense are foods foreign substances, since they, if not correctly introduced as to quality and quantity, time and circumstances, may be poisonous. Either, however, may be the necessary but missing element for maintaining or preserving life. We do not point to the knife, but to the pus or tumor as the foreign body; it is only the knife wrongly used, or the drug when not indicated that should be condemned. We ought not to deprecate surgery because of a bungler, nor drugs because of a bungling prescriber.

The broad-minded physician will sum up the requisites for his patient, and, without bias, will seek for aid in any domain of rational therapeutics. Electricity, massage, hydrotherapy, radiotherapy, fresh air, gymnastics, as well as the surgeon's knife, appeal, it is true, more strongly to the perceptive and receptive faculties of our patients than does the silent action of medicine. Drugs, however, although they require no loss of time, no machinery to operate, no expensive attendants, still furnish to him, who is skilled in their use, an agency more potent for good, more practical in application, more convenient of carriage and self-administration, more definite in quality and length of action, more specialized in its effects on various parts and organs of the body, more likely to give the immediate or remote results desired, than does any other single therapeutic measure.

We would not be understood as placing the use of drugs above anything and everything. All physicians agree in letting well enough alone, so long as we are sure our patient will accomplish just as much or more alone, but let us protest when our own colleagues prejudice patients against any prescribing of drugs, by telling them that they have been "drugged almost to death," that "their system is saturated with drugs," etc., when the truth is that few indeed are the drugs that are not either at once destroyed in the system or completely passed out within a few days after being

taken, leaving no trace of drug or drug effect. For the errors of surgery we do not sweepingly condemn surgery. So then let us not sweepingly condemn medication when properly directed by competent physicians. Let us teach the antidotal or eliminative nature of medicine and its use to replace substances natural or necessary to the body, but deficient during disease. In other words, instead of a false and malicious dogma, *teach the truth.*

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### A Misrepresentation of Facts

The October number of the *American Medical Journalist*, credits the *Cleveland Medical Journal* with a "scoop" in that it published the first account of the Cleveland meeting of the Council on Pharmacy and Chemistry. The Journalist, which is avowedly published in the interest of the Medical Journal Advertisers, draws the conclusion that our account constitutes a "leak" of information which the Council had wished to suppress and this assumed attempt at secrecy is more the occasion of an attack on the good faith of the Council. As a matter of fairness to all concerned, the Journal renounces all claims to this enterprising "scoop." The fact of the matter being, that a representative of the Journal, as well as a considerable number of Cleveland practitioners were admitted to the meeting of the Council and that the statements published in the Journal were given to it by the Council, for publication.

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### Department of Therapeutics

CONDUCTED BY J. B. McGEE, M. D.

**Endocarditis:** Beverley Robinson, in the *American Journal of the Medical Sciences*, for October, believes that in the treatment of acute rheumatic endocarditis, by the use of salicin, the poison of rheumatism may be neutralized, the disease shortened, and thus there is less likelihood for endocarditis to appear. He has come to the conviction that no antirheumatic remedy is so useful and so free from objections as salicin. In those cases in which we do have endocarditis after treatment has begun, it may be that salicin was not made use of soon enough, and in sufficient doses. As treatment with it does no harm, it is wise in any event to persist in giving it, and possibly thus prevent further cardiac complications. It has been questioned, where salicin was given and no endocarditis developed, whether endocarditis would have occurred, if no salicin had been given. He believes, however, that salicin approached more nearly a true antirheumatic specific, without great drawbacks, than any one we possess at present. It does not have the disadvantages of the salicylates, and has been given in doses of 30 grains hourly for

eight doses, and subsequently of 20 grains every two hours for one or several days without occasioning appreciable accidents of any kind, and apparently with only relief to the patient's symptoms and general condition. He also believes that practitioners have usually erred in not giving larger and more frequent doses of salicin, especially in the initial stage of acute rheumatism, and so long as fever and pain in the joints were present. He insists upon absolute rest during the acute attack, and is somewhat skeptical in regard to the good effects of any local application in preventing endocarditis, unless combined with intelligent general treatment. In any event, as a preventive measure, he would not apply leeches, blisters, nor even an ice-bag with this object in view, unless there were rather pronounced symptoms indicating their use. When acute endocarditis already exists, however, he believes that whenever there is weakness and irregularity of pulse and heart, it is desirable to employ hot fomentations, feeling confident that these are far better than cold compresses or an ice-bag, as their action is decidedly more stimulating. He is also satisfied that repeated fly-blisters, over the precordial area, are distinctly useful in a remedial way in commencing valvulitis, and would insist upon them.

**Antitoxin:**

Louis Fischer, in the *New York and Philadelphia Medical Journal*, states the proper dose of antitoxin is that dose which will inhibit the extension of the pseudomembrane, subdue the fever, and check the progress of the disease in general. For a mild case of diphtheria, from 2500 to 5000 units should be given. If there is no immediate improvement noted in 12 hours, and the exudate, temperature and pulse remain the same, then another dose of 2500 to 5000 units should be given. If there is a large exudate on the tonsils and pharynx, and the cervical glands are enlarged, then it is safer to inject 5000 to 10,000 units on the first day of illness. If no improvement is noted, repeat the dose in 12 hours. The same dose should be repeated from day to day until all visible exudate has disappeared, the glandular swelling subsided, and the fever, if present, reduced to normal. The condition and not the age of the child should be the guide as to the dosage. A toxemia in a young infant is absolutely identical with the toxemia of an older child. To produce results give enough. In croup cases, the first injection of antitoxin should be at least 10,000 units and it is surprising to see how quickly the system responds in many cases, exfoliation of membrane taking place often as early as 24, 48 or 72 hours. The worst cases of diphteria, and the most fatal, are frequently nasal cases; large doses of antitoxin should be used, the septic and nasal cases requiring the same dosage as laryngeal cases. In some cases there is a slight reaction, such as arise in temperature of one or two degrees, although many cases exhibit a decided fall in the temperature, within 12 hours after an injection of 5000 to 10,000 units as a rule the pulse rate is not affected, and as a rule the temperature falls after the required dose of antitoxin has been administered. The ordinary shortcomings that are most frequently met with consist of first placing too much reliance on the specific nature of the antitoxin regardless of other vital necessities. In addition to the required dose of antitoxin, vitality must be sustained by food, and the heart watched and supported.

**Hyperchlorhydria:** In the *American Practitioner and News* for October, Charles G. Lucas divides the treatment of hyperchlorhydria into the dietetic, medicinal and physical. On the subject of diet clinicians differ greatly, some preferring vegetable and others an albuminous diet. The free use of butter, or the administration of olive oil, which has given such good results in the Cohnheim clinic, is of decided benefit. It is now pretty well conceded that frequent small meals give the best results, and naturally all irritants as alcohol, acid foods, spices, condiments, etc., should be forbidden medicinally, for the purpose of neutralizing the excess of acid he has had the best results from calcined magnesia, in doses from one-half to two drams. If there is no complaint regarding gas, he usually continues bicarbonate of sodium and possibly sugar of milk with it. Rhubarb or cascara he has used when constipation existed. In the majority of his cases he has given the extract of belladonna, beginnig with one-sixth of a grain, and increasing to one-third, three times a day, and is convinced that these patients did better and suffered less than when the drug was not used.

**Bright's Disease:** *Merck's Archives* for October, believes that in true Bright's disease, as a matter of fact, much more depends upon the heart than upon the kidneys, and when the heart begins to give out the vicious circle of pathological change which is established very soon undermines the patient's general health, and a fatal termination is not far off. In kidney disease then, the general condition of the patient is more important than any supposed significance that can be attached to the result of urinary examinations. It is the individual that must be studied, and not the tabulated set of findings from the laboratory, in order to determine how far the disease has progressed, and what the outlook really is. As to treatment, the patient's health and strength must be conserved at any cost. The extreme limitations of diet, so common in the past, probably did more harm than good. An exclusively milk diet certainly served rather to aid the kidney affection to sap the strength of the patient, rather than to save his kidneys sufficiently to counteract the strain upon his resistive vitality.

**Strychnin:** *The Therapeutic Gazette* for October, again calls attention to the very general abuse of strychnin and nitroglycerin as circulatory stimulants. Many physicians rely upon strychnin as a stimulant to the heart during the course of the acute infectious diseases giving it not only for a few days at a time, but continuing it for weeks, with the result that the patient may be benefited during the earlier part of its administration, but soon fails to develop any good effects from its use, and may suffer from a condition of circulatory and nervous irritability, which is often taken for a manifestation of the disease. To sum the matter up in regard to strychnin, it may be said, as it may also be said of all powerful drugs, that used wisely, and in proper cases, it is an efficient remedy, but that used unwisely it is as capable of doing harm as any other powerful agent, and therefore its use should not be begun, nor should its administration be continued, unless there is some excellent reason for it. When strychnin has been given for a week or 10 days, the

physician should carefully catechise himself as to whether it is still needed, and as to whether some of the symptoms of rapid pulse and nervous irritability are not due to its use. As regards nitroglycerin it has been repeatedly pointed out that its common employment by the profession as a circulatory stimulant is based upon an erroneous conception of its physiological action, and when good results have followed its administration in cases of cardiac failure which are not due to high arterial tension, the physician has given credit to the nitroglycerin, when in reality the credit should be given to the recuperative powers of the patient. It is not conceivable that nitroglycerin can be of benefit in lowering the arterial tension of a patient whose blood-vessels are naturally elastic, and blood-pressure practically normal, yet it is advised in infants suffering from circulatory embarrassment due to pneumonia. Sweet spirits of nitre, which has a physiological action closely allied to that of nitroglycerin, seems a much better remedy for children of tender years than the more powerful drug, if any vascular relaxant is needed.

#### Pneumonia:

In the *Journal A. M. A.* for October 14, Edward F. Wells asserts that as to the treatment of

pneumonia in the young it may be faultlessly exemplary, it may be useless or harmless, it may be reprehensibly pernicious. As to the use of the antipneumonic serum, sufficient evidence has been obtained to warrant the conclusion that the effects are neither striking nor apparently important. With our present knowledge it may be asserted that we have no specific for pneumonia; no agent which will certainly destroy the infecting organism, nor render inert its toxins. However, there are certain prophylactic and remedial measures which are aimed directly at these points. For example, keeping the pneumococcus-free child out of range of the infecting germ; avoiding exhaustion and too profound sleep in the pneumococcus-harboring child; cleansing the fluids of the body, both intravascular and extravascular, of soluble toxins, in the pneumonic patient. From the beginning the pneumonic child should be given liquids to drink as freely as they can be taken; in addition normal salt solution, modified possibly by the addition of coffee or other medicament, should be administered per rectum in such quantity and frequency as can be received, retained and absorbed. It is his practice to give, beginning early, moderate or large doses of a reliable tincture of digitalis with the enemata if they are retained. Other vasomotor stimulants, as caffein, adrenalin, etc., may be used. If these little pneumonics have high fever, much dullness or restlessness, they are apparently made more comfortable, rational and normal, by systematic sponge bathing. Personally, he prefers tepid sponging followed by alcohol, repeated as often as required. This failing in its object, then guaiacol, in suitable dosage, may be applied to the thin skin of the flexures as an efficient substitute. These may be advantageously supplemented by the ice-cap applied at intervals. Oxygen inhalations are clearly useful when the patient is not fretted by their use. Strychnin, aromatic spirits of ammonia, etc., may be employed as required. In cases of profound nervous failure, with apathy, surface pallor, abdominal distension, the little patient may sometimes be aroused by a stimulating glycerinated enema.

**Scopolamin:** John V. Shoemaker, in the *New York and Philadelphia Medical Journal* for October 7, invites attention to scopolamin hydrobromid for the first time made official in the present U. S. Pharmacopœia, and chemically indentical with hyoscin hydrobromid. The average dose of scopolamin hydrobromid is half a milligram (1/128 of a grain). It is important to note that some persons are much more susceptible than others to the effects of scopolamin. In general, it has been held unadvisable to give hyoscin (scopolamin) to young children, or to old persons, and not at all to victims of Bright's disease. It should not be given in scarlatina or diphtheria on account of its paralyzing action upon the muscles of the throat and larynx. Hayem advises against its use in heart disease. Should toxic symptoms or asphyxia occur in a patient after a dose of scopolamin, the mistake should not be made of administering morphin, as in poisoning by atropin or hyoscyamin. The proper antidotes to scopolamin are diffusible stimulants, nitroglycerin, strychnin and caffen, artificial respiration, oxygen by inhalation, hot external applications, friction of the skin, and electricity. In agitated states of the insane and in chronic maniacal excitement, hyoscin is more suitable than morphin and has largely supplanted the latter in asylum practice. As a mydriatic, it is superior to atropin as there is less danger of glaucoma from its use. The solution should be one to 1000 or less. With regard to its recent use, suggested by Schneiderlin, in 1900, to produce insensibility for the purpose of a surgical operation, scopolamin appears to have a promising field in certain selected cases. It is usually combined with a small quantity of morphin hydrochlorid and injected near the field of operation, or along a nerve trunk. It would be a mistake, however, to suppose that scopolamin-morphin unconsciousness could be substituted in all cases and conditions for anesthesia as hitherto produced. The proportionate dosage, as laid down by Korff, is 1/10 milligrams of scopolamin (1/640 grain) and 25 milligrams of morphin (2/5 grain) which amount is divided into three doses, one of which is to be injected two hours and a half, another an hour and a half, and the third half an hour before the operation. The combination is used for two purposes: (1) with the intention of performing the whole operation under this anesthesia alone, and (2) as a preliminary to inhalation of chloroform or ether. In cases of complete success, the patient becomes sleepy after the first injection, is fast asleep after the second, and insensible to pain after the third. He refers to two points which should be kept in mind. In the first place coma is not a natural state, and no anesthetic is entirely free from danger. In the second place scopolamin-hydrobromid is of rather uncertain composition and is admitted to be a depressant to the spinal and cerebral centers and the heart, and a paralyzer of voluntary muscles, especially those of the larynx and pharynx. The addition of a narcotic like morphin, which is synergistic with scopolamin, increases this danger, and finally, as compared with the doses suggested by Korff, the quantities given by American surgeons of a milligram (1/64 grain) of scopolamin, and a centigram (1/6 grain) of morphin, repeated at hourly intervals, appear to be unnecessary, and approach toxicity, causing needless risk to the patient.

**Adrenalin-cocain:** J. M. Berry, in the *American Journal of the Medical Sciences* for November, states that the great disadvantage associated with the use of a local anesthetic is the danger to the individual resulting from the absorption of the drug used as the anesthetic. Cocain is such a drug. It is almost perfection in its local application, making possible the severest operations free from pain, and yet at times cocain poisoning may result from the absorption of the drug. The latest and most universal method for the reduction of the toxicity of cocain is its use in combination with adrenalin chlorid. Scarcely a medical journal can be perused without finding some reference to this new anesthetic. Berry concludes as the results of his experiments that what is certainly shown is that *adrenalin will not protect the organism against toxic doses of cocain*. In the use of adrenalin-cocain care should be exercised not to inject a toxic case of the latter, for not only does adrenalin fail to protect the body against the toxic doses of cocain, but it seems to enhance the toxic action.

**Tuberculosis:** J. R. L. Daly, in the *Medical News* for October 14, calls attention to the symptomatic treatment of tuberculosis, believing that certain symptoms which occur in the course of the disease, should be recognized and efforts made for their relief in order that the patient be rendered as comfortable as possible, and placed in a better position to combat the tuberculous process when circumstances prevent his transfer to a much more suitable climate. Cough seems to be the only symptom that in his opinion receives the attention that others equally deserve and he has found it a good plan to treat all forms of cough in tuberculosis with sedatives, rather than with stimulating expectorants. Pleuritic pain is one of the most distressing symptoms in tuberculosis and one of the most difficult to relieve. Strapping of the chest on the affected side during expiration, with the internal administration of opiates when the pain is very acute, usually gives the best results. Painting the chest over the site of the pain with counterirritants sometimes gives relief, but it is often necessary that the counterirritant should be of considerable strength. In the selection of a hypnotic, if one be necessary, a great deal depends upon the condition of the patient; chloral, for instance, should be given with great caution if the patient is suffering from an organic heart lesion, while when the heart's condition warrants its use, it is of exceeding value. He has employed with considerable success, except in cases complicated by severe pain, one of the newer remedies, veronal. In practically every instance veronal produced a comforting sleep, lasting from four to eight and even 10 hours, and in no case left any distressing after effects. Profuse sweating at night is a symptom which can sometimes be relieved by upbuilding the patient's constitution, but as this process is slow the hyperidrosis should be treated when present, and he has heretofore employed atropin for the arrest of night sweats, but of late has been using eumydrin, one of the newer products. Its action is like that of atropin, but he prefers it because it is quicker in effect, and does not dry up the throat as atropin does. The action of eumydrin as a respiratory stimulant is more lasting than that of atropin, a quality in its favor in the treatment of tuberculosis.

## Academy of Medicine of Cleveland

The thirty-second regular meeting of the Academy of Medicine, was held in the assembly room of the Rose Building, at 8 p. m., Friday, November 17. Dr. G. A. Armstrong, of Montreal, read an address upon "Intestinal Obstruction," which elicited close attention from a large audience and was followed by a most interesting discussion. Dr. Armstrong's paper appears elsewhere in this number of the Journal.

### CLINICAL AND PATHOLOGICAL SECTION.

The twenty-eighth regular meeting of the Clinical and Pathological Section was held at 8 p. m., Friday, Nov. 3rd, 1905, at the Cleveland Medical Library.

Program: Vesical Hyperesthesia, Dr C. G. Foote; The Uses and Abuses of Certain Minor Gynecological Procedures, Dr Hunter Robb; Report of Case of Heart Disease, Dr D. S. Hanson; Report of Case of Dislocation of the Fifth Lumbar Vertebrae upon the Sacrum, Dr. Henry O. Feiss.

### EXPERIMENTAL MEDICINE SECTION

The twenty-first regular meeting of the Section of Experimental Medicine was held at 8 p. m., Friday, November 10th, 1905, at the Cleveland Medical Library.

Program: An Experimental and Clinical Investigation of Surgical Hemorrhage, Drs G. W. Crile and D. H. Dolley; Relations of Lesions in Gasserian Ganglia to Herpes in Pneumonia and Cerebrospinal Meningitis, Dr Wm. T. Howard, Jr.

## Alumni Association of St. Alexis Hospital

The regular monthly meeting of the Alumni Association of Resident Physicians of St. Alexis Hospital was held November 2nd at the Hollenden Hotel. Program: "Etiology of Appendicitis," J. V. Gallagher; "Surgery of the Lymphatic System," Thos. Adams; "European Clinics," A. P. Scully.

T. J. CALKINS, M. D., Secretary.  
J. E. COGAN, M. D., President.

## International Medical Congress

The committee in charge of the International Medical Congress, which will be held in Lisbon from April 19 to 26, 1906, has written asking for the contribution of papers on the following medico-legal subjects, and saying that as yet no titles of communications touching on any of these subjects have been received from this country:

The signs of virginity and of defloration in medico-legal relations.

Hand marks and finger prints; their medico-legal importance.

The medico-legal importance of the carunculae myrtiformes.

The mechanism of death by hanging.

The value of bacteriologic examination of vulvo-vaginal discharges in the determination of venereal contagion.

The signs of deaths by drowning.

Ecchymoses in legal medicine.

Spontaneous and criminal abortions from a medico-legal point of view.

Medico-legal investigation of blood stains.

The relations between the seat of cerebral concussions and the point of application of the agent which produced them.

Epilepsy in legal medicine.

The induction of abortion; when is it permissible?

The value of legal medicine in the study of criminal law.

The best legislation for the protection of the "medical secret" (the obligation imposed upon physicians to treat as inviolable all information concerning patients obtained while in the discharge of their professional duties).

The effects of the civil and penal law towards the newborn living infant.

Distinction between the natural openings in the hymen and tears of this membrane.

Criminal vulvar copulation.

Organization of medico-legal services.

If any of the readers of this communication intend to take part in the discussions of this section of the Congress, or to prepare papers for it on any of the subjects mentioned, or on any other subject in medicine or surgery, he should inform the Secretary of the American Committee.

RAMON GUITERAS,

Secretary, American National Committee,

75 West 55th Street, New York.

## Book Reviews

The Physician's Visiting List (Lindsay and Blakiston's) for 1906. Fifty-fifth year of its publication. The Dose-table herein has been revised in accordance with the new U. S. Pharmacopœia (1900). Phila., Pa., P. Blakiston's Son & Co., 1012 Walnut Street.

The Physician's Visiting List (Lindsay and Blakiston) for 1906 shows some careful thought in its preparation and mechanical makeup so well appreciated in this series of visiting lists, of which this is the 55th year of its publication. The list, with special memorandum for 25 patients a week, contains ample space for the daily record and for such special memorandum as may be necessary. The pages of record are prefaced by a chapter devoted to chemical and pharmaceutical incompatibility, a table upon immediate treatment of poisoning, and include also a table of dosage in both apothecary and metric measures. This extremely satisfactory visiting list is one which those who have used it in the past will not want to be without and is to be heartily recommended as an excellent volume for the purpose for which it is intended.

Physician's Pocket Account Book, by J. J. Taylor, M. D. Published by the Medical Council, 4105 Walnut Street, Philadelphia, Pa.

This small volume is designed to form a physician's complete financial record and includes an index, columns devoted to the balances brought forward from former records and ample space for the record of date, individual, and description of services rendered. As a means of record of the individual items this small volume should prove of real help.

The Medical Record Visiting List or Physician's Diary for 1906. New Revised Edition. New York. William Wood and Company, Medical Publishers.

Through the courtesy of the publishers, William Wood and Company, we have received The Medical Record Visiting List or Physician's Diary for 1906. This list maintains the high standard of excellence so well known and appreciated in the past. The first 30 pages are taken up with

valuable tables relating to dosage, poisons and their antidotes, therapeutic hints, etc. In the body of the diary space is given for a record of the daily visits to the extent of 30 patients a week, with ample space for special memoranda. This is a model visiting list.

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The Surgical Assistant, A Manual for Students, Practitioners, Hospital Internes and Nurses. By Walter M. Brickner, B. S., M. D., Assistant Surgeon, Mt. Sinai Hospital, Out-Patient Department, etc. 360 pages. 123 original illustrations and 116 illustrations of surgical instruments. New York: The International Journal of Surgery Co., 1905. Price \$2.00 net.

Most works on surgery and operative technic give but little instruction as to the duties of the first assistant. Only those become proficient in the art of assisting well who have a thorough hospital experience, and the numerous methods and devices well known to the surgeon and trained assistant remain a mystery to those who have but little experience in this line. Brickner has gathered together in this volume many of the important details of method and operative technic which he has presented clearly and concisely, and the information should prove especially useful to students, hospital internes and general practitioners. The early chapters give instruction in methods of assisting at examinations, preparation of dressing and operating-room, preparation of the patient and of the assistant himself. A very good chapter on the administration of anesthesia follows. Various common operations typifying groups are then taken up and minutely described, careful emphasis being put on assistant's duties in each one and many details being given which would be of value to any one interested in surgery. Chapters are also given on the after-treatment of operative cases, the preparation of surgical materials and formulary of solutions used in surgical dressings.

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Carbonic Acid in Medicine, by Achilles Rose, M. D. 12mo, cloth, 268 pages. Price, \$1.00 net. Funk & Wagnalls Company.

The history of carbonic acid in medicine is very little known, and Dr Rose's work presents a most satisfactory resume of the subject. It comprises 13 chapters, the first being devoted to the physiology and chemistry of respiration, while the second treats of the history of the use of the carbonic acid in therapeutics. Its practical uses and results in asthma, dysentery, whooping cough, rectal fistula, etc., are then quite fully detailed and the effects of carbonic acid baths on the circulation, and the preparation of artificial Nauheim baths are considered. It embodies much information not generally known, and shows that carbonic acid is applicable to a wider therapeutic field than is usually supposed.

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The National Standard Dispensatory. Containing the Natural History, Chemistry, Pharmacy, Actions and Uses of Medicines, including those recognized in the Pharmacopœias of the United States, Great Britain and Germany, with numerous references to other Foreign Pharmacopœias. In accordance with the United States Pharmacopœia, 8th decennial revision of 1905 by authorization of the Convention. By Hobart Amory Hare, B. Sc., M. D., Professor of Therapeutics in the Jefferson Medical College, Philadelphia, Member of the Committee of Revision of the U. S. P.; Charles Caspari, Jr., Ph. G., Phar. D., Professor of Pharmacy in the Maryland College of Pharmacy, Baltimore, Member of the Committee of Revision of the U. S. P.; and Henry H. Rusby, M. D., Professor of Botany and Materia Medica in the College of Phar-

macy of the City of New York, Member of the Committee of revision of the U. S. P. Imperial octavo, 1858 pages, 478 engravings. Cloth, \$7.25, net; leather, \$8.00, net: Thumb-Index, 50 cents extra. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

This Dispensatory succeeds the National Dispensatory of Stillé and Maisch, so long recognized as a standard work of reference for physicians and pharmacists. The section devoted to pharmacognosy has been treated by Dr Rusby, and that to pharmacy by Prof. Caspari, while Dr Hare presents concisely and clearly the actions and practical applications of the medicines described. It is a grand work of reference, treating most fully not only all the remedies of the new U. S. Pharmacopœia, but also those official in the several foreign pharmacopœias, as well as the great field of unofficial agents so extensively employed. It is so comprehensive in scope and so complete in detail that the limits of a review can only do it justice in a most superficial way. A therapeutic index covering fully 20 pages greatly enhances its value to the physician.

## Medical News

Dr Booher, of East Liverpool, has located in Dundee.

George Kleinknecht, of North Liberty, has located at Leesburg.

Ida Peffers, of Burton, is in Chicago, taking a special medical course.

Elizabeth Shrieves, of Wilmington, has gone to Chicago to take a post-graduate course.

Dr Dyson and wife, of Hiram, left recently for Miami, Florida, where they will spend the winter.

Dr and Mrs O. A. Rhodes, of Salem, left recently for a western trip. They expect to be gone until spring.

H. G. Young, of West Unity, who has been in the west and southwest for some time, returned November 3.

J. H. Lowman, of Cleveland, has just returned from a two months' trip to Europe, where he attended the International Congress of Tuberculosis held in Paris, October 2-7.

The new officers of the First Councilor District Medical Society of Southern Ohio are: president, John C. Larkin, Hillsboro; vice-president, B. N. Blair, Lebanon; secretary, Dr Carothers, Cincinnati; treasurer, Walter Murphy.

The Greene County Medical Society held a meeting in Xenia on November 9th, there being about twenty physicians present. W. H. Finley read a paper on "Clinical Diagnosis," which was of an interesting character and provoked much discussion. The physicians took dinner at the Grand.

The Columbiana County Medical Society held their regular monthly meeting in the city hall at Salem, November 14. About twenty physicians were present, among them being Drs Moore, Morris and Jones, of Lisbon. The next meeting will be held in Lisbon on the second Tuesday in December.

George M. Gould, M. D., 1722 Walnut Street, Philadelphia, will be grateful for any trustworthy information as to the methods which have been devised by the blind in overcoming their disability or in gaining a livelihood. Accounts of such lives, anecdotes, references to literature, etc., will be appreciated.

The third session of the Union Medical Association of the sixth councilor district was held November 4. The officers of the Association are as follows: president, F. C. Reed, of Akron; secretary, J. H. Seiler, of Akron; treasurer, J. H. Jacobs, of Akron; councilor, T. Clarke Miller, of Massillon. Vicepresidents, J. S. Wright, of Akron; W. G. Smith, of Ravenna; F. B. Carson, of Benton; E. O. Morrow, of Canton; Geo. W.

Ryall, of Wooster; C. R. Clarge, of Youngstown; John Burns, of Mansfield, and D. S. Sample, of Ashland.

The second meeting of the Geauga County Medical Society was held November 2, at Burton. The following responded to the roll call: President, F. S. Pomeroy; secretary, A. D. Warner; Edwards, James, Goodwin, Williams, Clapp, Wilcox and Teed-Crampton. Wm. O. Osborn, of Cleveland, presented an excellent paper on "Diagnosis and Treatment of Diseases of the Respiratory Passages." The paper was discussed by several members. The next meeting will be held January 15, 1906.

The Mahoning County Medical Society held its eleventh annual banquet November 14. George W. Crile, of Cleveland, delivered the principal address, "The Surgical Treatment of Cancer of the Head and Neck, With Analysis of 125 Operative Cases." Ray E. Whelan delivered the address of welcome and J. J. Thomas was toastmaster. Responses were as follows: "Flowers by the Wayside," John McCurdy; "As Others See Us," Harlan M. Page, Warren; "The Way We Used to Do Things," James S. Livingston, West Middlesex, Pa; "The Up-to-date Prescription," Charles D. Hauser.

An interesting and well attended meeting of the Muskingum County Medical Society was held November 8. Dr C. U. Hanna delivered a paper on "Pneumonia," and Dr Simeon Kelly reported a case of pneumonia in a child. Dr H. T. Sutton, who was to have reported two unusual operations, withdrew to allow a fuller discussion of Dr. Hanna's paper. Dr. C. H. Higgins reported that the eighth district meeting of physicians would probably be held in New Lexington in January. Those at the meeting were Drs Warburton, Sykes, Hanna, Culbertson, Kelly, Baron, Sealover, Sutton, Templeton, Allen, Higgins, Bainter, Melick, Geyer, Sellers, Lenhart and Wiseman.

The twentieth regular session of Lake county physicians was held in the assembly room of the Parmly Hotel on Monday evening with the following in attendance: Drs Amidon, House, Merriman, Sherman and Hawley, of Painesville; Dr Moore, of Willoughby, Dr Stork, of Wickliffe, and Dr Lowe, of Mentor. At the October meeting it was suggested that the committee on program might do well to encourage local talent rather than have the most eminent of other cities invited to present subjects. Acting upon this, three members of the society were secured to take part. Dr T. M. Moore, of Willoughby, was called upon. He selected for a subject "Fractures of the Humerus." In this he fully described and illustrated all the various breaks of the long bone from the elbow to the shoulder, giving his method of treating the same. Dr C. M. Hawley was next called upon and gave "An Interesting Surgical Case." He cited his personal experience with a gun shot wound of the head in which the bullet passed through four inches or more of the brain without causing death or any permanent injury. The patient made a complete recovery without removal of the ball. Dr C. F. House followed with "The Medical View of Appendicitis." The doctor seemed to favor the more conservative element of the profession, producing evidence to the effect that nearly all cases of appendicitis may be successfully treated without surgical interference.

The C. H. & D. Railway Surgeons' Association, Commercial Club, Dayton, Ohio, met on November 14.

Program:—10:00 A. M.—Call to order. Appointment of committees, general business. 10:30 A. M.—"Burns and Scalds," Dr J. W. Costolo, Sidney, O.; Discussion opened by Dr Chas. C. Berlin, Wapakoneta, O. 11:30 A. M.—"Conservatism in Emergency Surgery," Dr W. E. Rice, Tuscola, Ill.; Discussion opened by Dr Wm. Chenewith, Decatur, Ill. 12:30 P. M.—Dinner. Election of officers. President's Address. 2:00 P. M.—"Use and Abuse of Plaster Paris," Dr Chas. E. Caldwell, Cincinnati, O.; Discussion opened by Dr O. P. Tatum, Chillicothe, O. 3:00 P. M.—"What Can the Surgeon do for the Company?" Dr A. B. Frame, Piqua, O.; Discussion opened by Dr LeRoy Pence, Spencerville, O. 4:00 P. M.—Miscellaneous Discussions opened by Dr F. D. Barker, Dayton, O.

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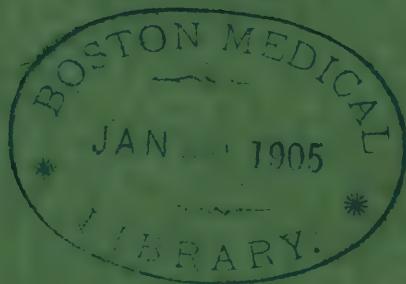
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